SCOTTISH

CRYPTOGAMIC FLORA,

OR

COLOURED FIGURES AND DESCRIPTIONS OF CRYPTOGAMIC
PLANTS BELONGING CHIELY TO THE ORDER *FUNGI;*

AND

INTENDED TO SERVE AS A CONTINUATION

OF

ENGLISH BOTANY.

BY

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Cui bono hæc omnia?—Ut cognoscamus sapientiam CREATORIS, quæ in minimis non minus elucet, quam in magnis plantis.—DILL.

VOL. VI.

EDINBURGH:
MACLACHLAN & STEWART, EDINBURGH;
AND BALDWIN, CRADOCK & JOY, LONDON.

EDINBURGH:
PRINTED BY P. NEILL.

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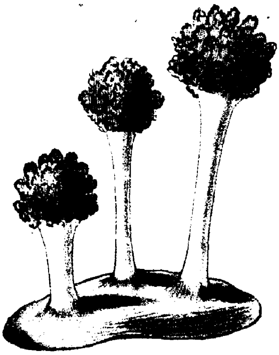

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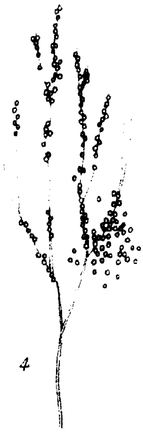

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FLOCCARIA GLAUCA.

Glaucous Floccaria.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *BYSSOIDEÆ*, *Grev.*—MUCEDINES, *Link.*

GENERIC CHARACTER.

Thallus stipitatus, capitatus, omnino floccosus, capitulo e floccis stipitis laxe expansis. Sporidia globosa floccis inspersa.

Thallus stipitate, capitate, entirely floccose, the head formed by the loosely expanded filaments of the stipes. Sporidia globose, interspersed.

SPECIFIC CHARACTER.

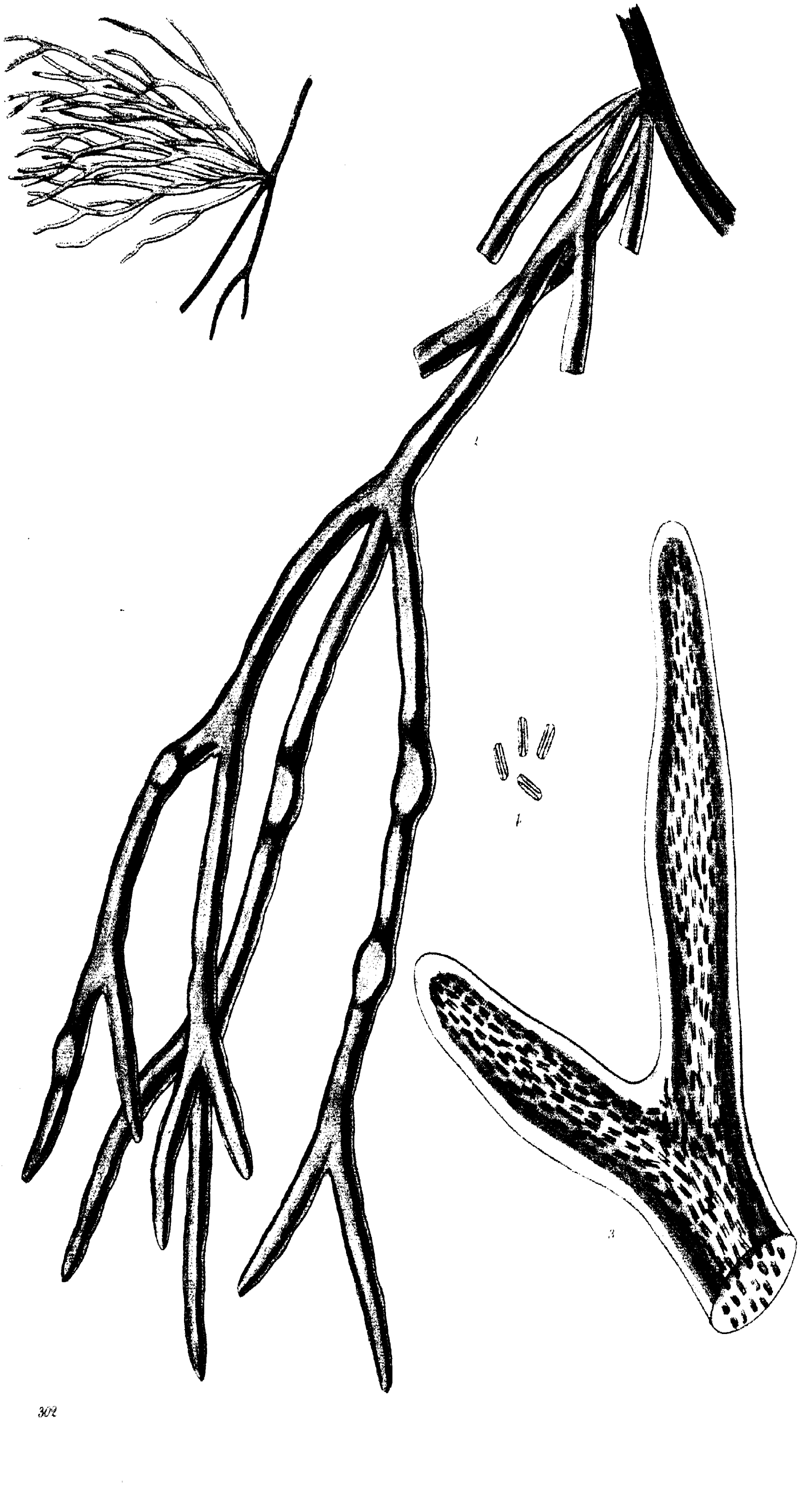
FLOCCARIA glauca ;.................

HAB. On the surface of a solution of *Gum arabic.*

Plant one to two lines in height, erect, robust, entirely of a most delicate filamentous structure. *Stipes* dilated at the base, snow-white, dilated again at the apex, and expanding into fasciculi of filaments, among which the exceedingly minute, globose, glaucous sporidia are profusely dispersed.

A curious and elegant little plant, belonging to the tribe *Cephalotrichei* of FRIES, but not referable to any defined genus. It is singular in its purely floccose structure; the filaments of the stipes, in fact, forming the head, by their divergence. It thus differs very essentially from *Cephalotrichum* of LINK, which has a rigid subulate stipes, and a capitulum formed of contorted filaments, like that of a *Stemonites* denuded of the peridium. The *sporidia* are developed in great profusion, and, under the highest power of the microscope, still appear minute.

Fig. 1. *F. glauca,* natural size. Fig. 2. *A group of plants.* Fig. 3. *A single plant.* Fig. 4. *Filaments and sporidia;* magnified.



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MONEMA OBTUSUM.

Obtuse Monema.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss.*

GENERIC CHARACTER.

Fila libera, continua, tubulata, capillaria, granula oblonga vel subelliptica includentia.

Filaments free, continuous, tubular, capillary, containing oblong or subelliptical granules.

SPECIFIC CHARACTER.

MONEMA obtusum; *filis subdichotomis, ramis divaricatis, apice valde obtusis, granulis numerosissimis, lineari-oblongis, geminatis.*

M. filaments subdichotomous, the branches divaricated, very obtuse at the extremity; granules very numerous, linear-oblong, geminate.

GLOIONEMA dichotomum, *Grev. Fl. Edin.* p. 301.

HAB. Parasitic on small Algæ in the sea, in summer. Black Rocks, Leith, rare.

Plant growing in somewhat small, lax, flaccid tufts, an inch or more in length, of a yellowish-green colour, and rather fœtid odour; about as thick as a hog's bristle, branched in a dichotomous manner, the axils obtuse; branches divaricated, very obtuse at the extremity. *Granules* exceedingly numerous, yellow, linear-oblong, geminate (apparently permanently so). An external membrane is obviously present, but it is perfectly transparent, and the tube is turgid with hyaline gelatine, in which the granules are longitudinally imbedded without any specific order.

I am by no means convinced that the plant under consideration may not ultimately prove a variety of *Monema Dillwynii*; but if so, the deviation is sufficiently remarkable to deserve particular attention. The whole plant is more robust, and apparently very distinct in the obtuse axils of the divaricated branches, their obtuse termination, and the multitude of granules. In the only specimens I have found, the tube is subject to occasional roundish dilatations. The granules are more decidedly geminate than in *M. Dillwynii*, in which they only appear furrowed, but in the latter they are nevertheless probably also geminate.

Fig. 1. *M. obtusum*, natural size. Fig. 2. *A single plant*. Fig. 3. *Termination of a branch*. Fig. 4. *Granules*; magnified.

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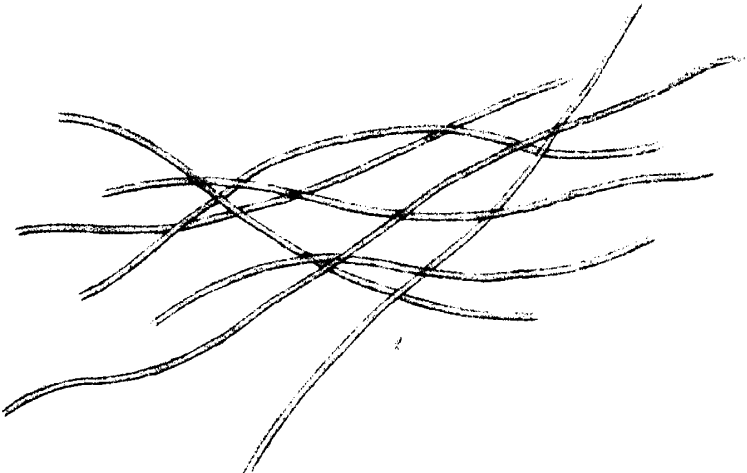

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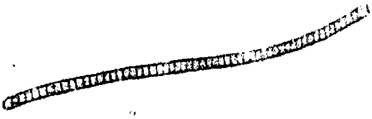

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303

LYNGBYA PROLIFICA.

Prolific Lyngbya.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss.*

GENERIC CHARACTER.

Fila muco matricali destituta, libere natantia, flexilia, tubo continuo intus annulato.

Filaments destitute of a mucous layer, unattached, free, flexible, furnished with a continuous, internally annulated tube.

SPECIFIC CHARACTER.

LYNGBYA prolifica; *filis tenuissimis, intricatis, purpureis, latissime effusis, natantibus.*

L. filaments exceedingly slender, entangled, purple, very broadly effused, floating.

HAB. Surface of lakes. In the Loch of Haining, Selkirkshire, the property of John Pringle, Esq. October to April.

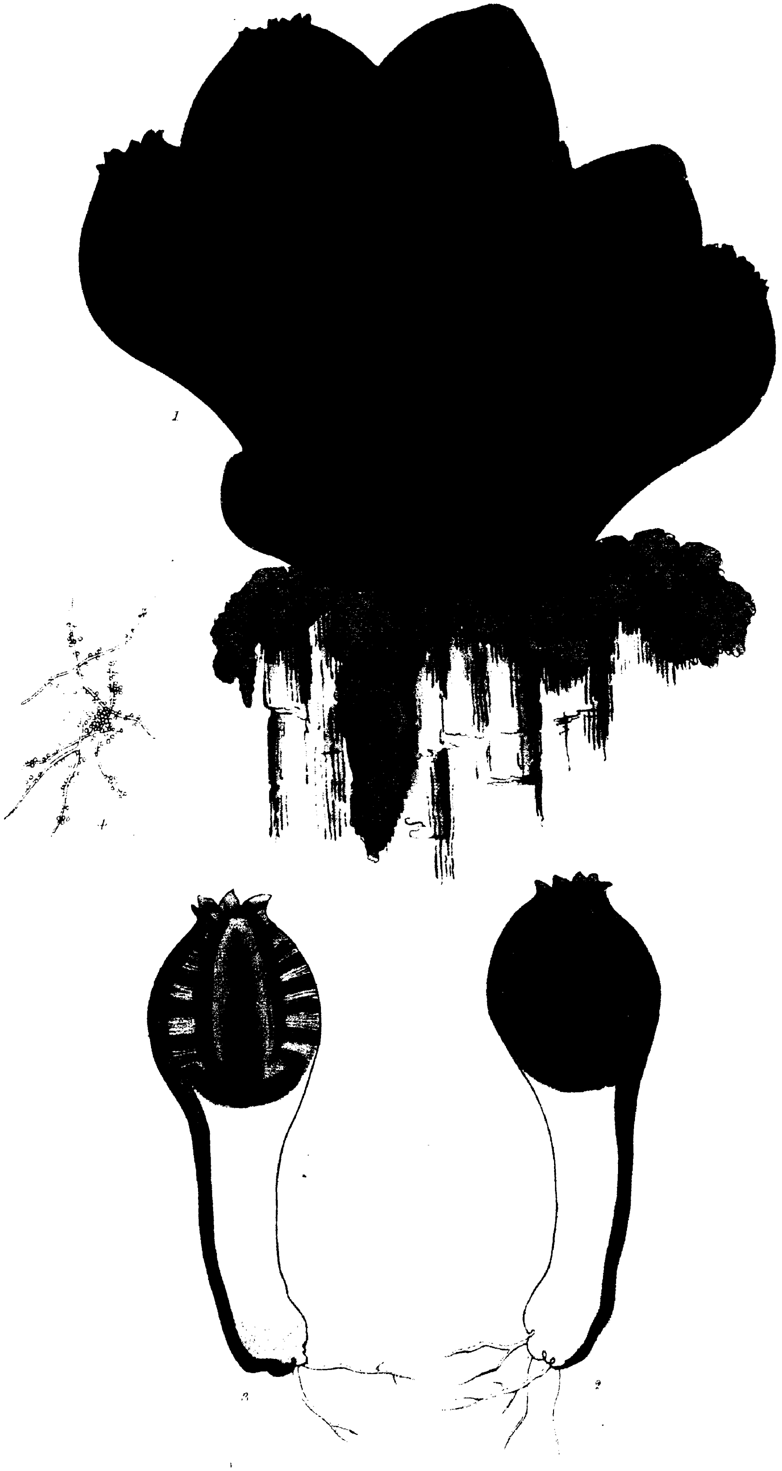
Plant extensively diffused, forming a floating stratum of a rich purple colour. *Filaments* extremely slender, entangled, somewhat rigid, yet flexible, entirely destitute of attachment, and free from any mucous layer. *Annuli,* from the minuteness of the filament, almost inconspicuous.

I am indebted to the kindness of JOHN PRINGLE, Esq. of the Haining, and Captain GORDON of Eccles, for specimens of this plant, accompanied with an account of its appearance in the lake. The lake itself is a natural sheet of water, covering an extent of about thirty-five acres, of from three to fifteen fathoms in depth, and supplied partly by rivulets and partly by a bottom spring. During summer, however, these are nearly dry, and the lake is consequently in a state of more or less stagnation, which is doubtless highly favourable to the development of *Algæ* as well as of *animalculæ.*

The plant in question has been remarked for a period of twelve to fifteen years, during which time it has gradually but sensibly extended itself. It now occupies a broad space around the margin, and resembles a floating bed of opaque bituminous-like scum.

From its characters, this Alga certainly belongs to AGARDH's genus *Lyngbya*. But that naturalist remarks, that the filaments of *Lyngbya* differ from those of *Calothrix* in being much larger, and more nearly approaching to the genus *Conferva*. *Lyngbya prolifica* forms an exception to this observation, for the filaments are of extreme tenuity.

Fig. 1. *A mass of filaments,* natural size. Fig. 2. *Filaments.* Fig. 3. *Portion of a filament;* magnified.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LYCOPERDON PYRIFORME.

Pear-shaped Puff-Ball.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *GASTROMYCI*, *Link.*

GENERIC CHARACTER.

Peridium duplex; exterius adnatum, furfuraceum, sæpe in verrucas abiens; interius membranaceum, apice irregulariter rumpens. Sporidia floccis inspersa.

Peridium double; outer one adnate, furfuraceous, often passing away in the form of warts; inner one membranaceous, bursting irregularly at the summit. Sporidia intermixed with filaments.

SPECIFIC CHARACTER.

LYCOPERDON pyriforme; *cæspitosum, pyriforme, umbonatum, rufo-umbrinum, plus minusve stipitatum; stipite cum peridio confluente, verrucis tenuissimis vel subnullis.*

L. tufted, pear-shaped, umbonate, reddish-brown, more or less stipitate; stipes confluent with the peridium; warts very slender, or nearly wanting.

LYCOPERDON pyriforme, *Willd. Fl. Berol.* p. 411. *fide Persoon.*—*Schæff. Fung.* t. 185.—*Bull. Champ.* t. 32. (var.)—*Pers. Syn. Fung.* p. 148.—*Bolt. Fung.* t. 117.—*Hook. Fl. Scot.* Pt. 2. p. 11.—*Schwein. Fung. Carol.* No. 344.—*Grev. Fl. Edin.* p. 457.

LYCOPERDON Proteus, var. ovoideum, *Bull. Champ.* p. 148. t. 435. f. 3.—*De Cand. Fl. Franç.* v. 2. p. 265.

LYCOPERDON Proteus, var. pyriforme, *With. Bot. Arr.* v. 4. p. 453.—*Relh. Fl. Cantab.* p. 565.—*Purt. Midl. Fl.* v. 2. p. 700.

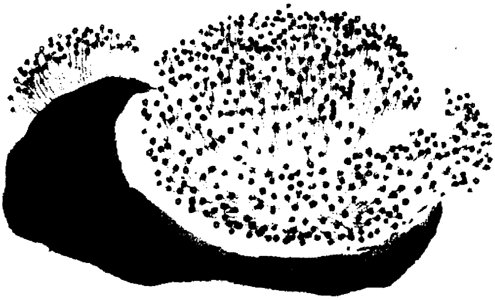
HAB. On the rotten stumps of trees, on the ground in woods, and in similar situations. Autumn. Not unfrequent.

Growing in dense tufts, frequently so numerous and crowded as to compress one another. *Peridium* distinctly pear-shaped, umbonate, pale reddish-brown, furnished with warts, either very small and slender, or resembling minute dots studding the surface. The orifice is small. The peridium is provided with a stipes, into which it passes insensibly; and though the stipes is often an inch in length, it is sometimes so short as to appear to be absent, from its gradual dilatation into the peridium. Internal substance of the stipes yellowish-white. An exceedingly delicate woolly mass, filled with interspersed purplish-brown globose sporules, occupies the peridium; one distinct mass of woolly filaments arising from the base fills the centre, while another set of filaments spring at a right angle from the inner surface of the peridium, and touch the central mass with their extremities.

Of all the genera of *Fungi*, there is probably no one equally limited in extent, that presents so much confusion in published figures and descriptions as *Lycoperdon*,—so many figures and so many varieties. The subject of the present description appears to be one of those least liable to great deviation; and yet it has been placed by some authors among the incongruous varieties of *Lycoperdon Proteus*. One of these varieties, which happens to be before me at the present moment, the *L. lacunosum* (Bull. Champ. t. 52.), seems really to be as distinct as *L. pyriforme*. A pitted stipes cannot be considered as a trifling character, unless it be an uncertain one.

Bulliard's representation of *L. pyriforme* at t. 32. is taken from specimens apparently injured, probably by atmospheric causes. That at t. 435. f. 3. is much superior, but, as Persoon has justly remarked, the umbonate summit is not expressed, —a character I have never seen absent, in any state of the plant. Schæffer's figure gives a good idea of specimens growing in an almost solitary manner, when the stipes becomes shorter, and the diameter of the peridium greater. The most natural and the most usual mode of growth is, however, in crowded tufts, of twelve to fifty together, as represented in the annexed plate.

Fig. 1. *L. pyriforme.* Fig. 2. *A plant divided; the peridium filled with the sporules.* Fig. 3. *The peridium with all the sporules removed, to shew the woolly mass of filaments;* natural size. Fig. 4. *Filaments and sporules,* magnified.



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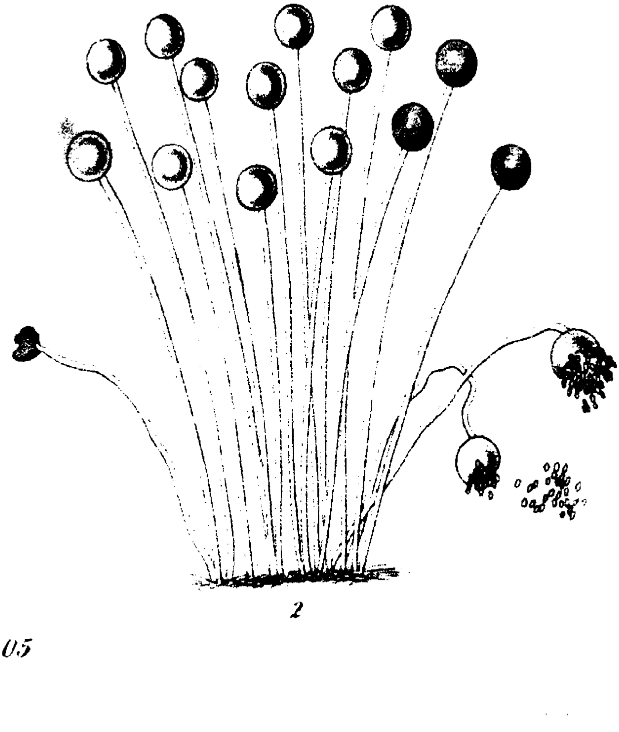

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MUCOR CANINUS.

Small yellow-headed Mucor.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—*FUNGI*, IV. CONIOMYCETES, Ord. MUCOREI, *Fries.*

GENERIC CHARACTER.

Periodiola solitaria stipitata rumpentia aut persistentia, floccis (stipitibus) erectis. Sporidia simplicia, globosa.

Peridiola solitary, stipitate, bursting open or persistent, the flocci (stipes) erect. Sporidia simple, globose.

SPECIFIC CHARACTER.

MUCOR caninus; *floccis decumbentibus sterilibus nullis, fertilibus simplicibus, elongatis; peridiolis minutis, lutescentibus.*

M. decumbent sterile filaments none, fertile ones simple, elongated; peridiola minute, turning yellow.

MUCOR caninus, *Pers. Obs. Myc.* 1. p. 96. t. 6. f. 3,–4.—*Syn. Fung.* p. 201.—*Alb. et Schwein.* p. 111.—*Schum. Fl. Sæll.* v. 2. p. 237.—*Nees, Fung.* p. 82. f. 79.—*Mart. Fl. Erlang.* p. 362.—*Schwein. Fung. Carol.* No. 424.—*Link, in Sp. Willd.* v. 6. pt. 1. p. 90.

HAB. On Dog's dung, not unfrequent.

Plant investing the substance on which it grows, like a fine *Byssus*, of a white colour. Decumbent *sterile filaments* none. *Fertile ones* simple, erect, from a quarter of an inch to half an inch in height, fine, white, pellucid, very numerous, each supporting a globular little head (*Peridiolum*), which is pellucid and colourless at first, but afterwards yellowish and occasionally darker. The *peridiola* burst when mature, and exposed to moisture. *Sporidia* numerous, ovato-globose.

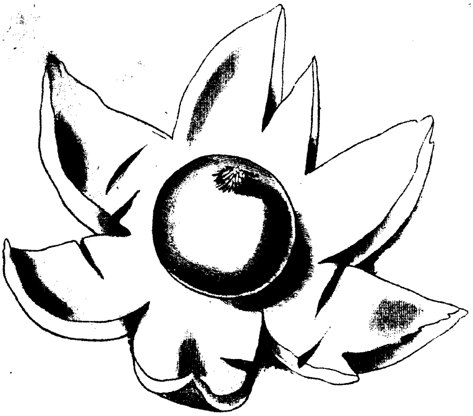
The genus *Mucor* has MICHELI for its author. It contains numerous species. Professor LINK enumerates thirty-four; but of these a few will be probably hereafter found to demand exclusion.

The species now figured, has been confounded by some authors with *Hydrophora stercorea* of TODE, now *Mucor ster-*

coreus of LINK. The latter is a much larger plant, the flocci much longer, and the peridiola three or four times larger, though of the same colour. TODE, in his observation under *Hydrophora stercorea*, alludes to our plant in the following words: "Detexi nuperrime varietatem hujus fungi in stercore canino, pluvia macerato, vegetantem et priori ab omni parte similem, magnitudine excepta, qua octuplo circiter minorem se mihi præbuit."

I cannot with certainty refer this species to any one described by British authors.

Fig. 1. *M. caninus,* natural size. Fig. 2. *A group of plants, some of them bursting and discharging their sporules;* magnified.



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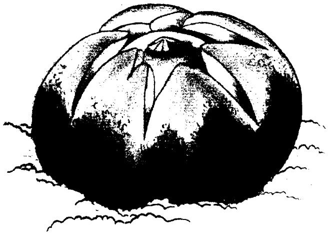

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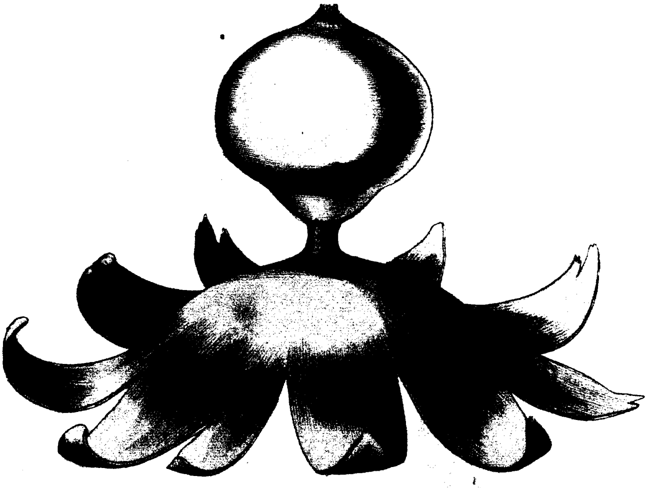

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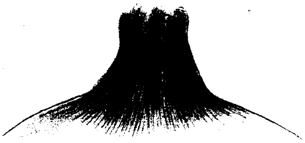

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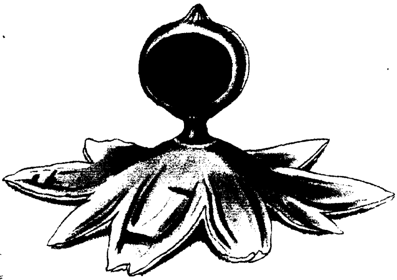

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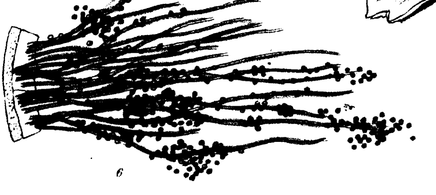

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GEASTRUM MULTIFIDUM.

Many-cleft Earth-star.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *GASTROMYCI*, *Link.*—FUNGI, III. GASTEROMYCETES, *Fries.*

GENERIC CHARACTER.

Peridium duplex: exterius coriaceum radiatim rumpens, reflexum, persistens; interius membranaceum ostiolatum.

Peridium double: outer one coriaceous, bursting in a radiating manner, reflexed, persistent; inner one membranaceous, furnished with one or more orifices.

SPECIFIC CHARACTER.

GEASTRUM stellatum; *peridio externo multifido, patente, laciniis inæqualibus; interno pedunculato, globoso, ostiolo conico, fimbriato.*

G. outer peridium many-cleft, spreading, the segments unequal; inner one pedunculate, globose, the orifice conical, fimbriated.

GEASTRUM multifidum, *Pers. Meth. Fung.* p. 6. var. β.—*De Cand. Fl. Franç.* v. 2. p. 267.—*Ejusd. Syn.* p. 55.

GEASTRUM coronatum, var. α, *Pers. Syn. Fung.* p. 132.

LYCOPERDON stellatum, *Linn. Sp. Pl.* 1653.—*Huds. Fl. Angl.* p. 643.—*Bolt. Fung.* t. 179.—*Relh. Fl. Cantab.* ed. 3. p. 565.—*With. Bot. Arr.* ed. 6. v. 4. p. 445. var. 1.—*Woodw. in Linn. Trans.* v. 2. p. 54.—*Sow. Fung.* t. 312. —*Purt. Midl. Fl.* v. 2. p. 701. et v. 3. p. 480. t. 20.

LYCOPERDON recolligens, *Sow. Fung.* t. 80.? (*L. sessile sub L. recoll. vero,* t. 401.)

LYCOPERDON fornicatum, *Bry. Acc. of two Lycoperdons,* f. 12,-14. et 16,-17. *fide Woodward.*

FUNGUS pulverulentus, crepitus lupi dictus, coronatus et inferne stellatus, *Ray, Syn.* p. 27. t. 1. f. 1.

HAB. Woods and hedge-banks. Near Edinburgh in 1782, Sir JAMES EDWARD SMITH. Woodmill Plantation (parish of Abdie), Fifeshire, in October, JAMES HERIOT, Esq.

Plant produced beneath the surface of the soil, and, while in that situation, of a globular form, and rough tomentose surface. When arrived at maturity, the *outer peridium* bursts at the summit, and splits into several unequal segments, which expand, throw off the soil, and expose the inner peridium to the atmosphere. During this process, the tomentose coat of the outer peridium is wholly or partially lost, and (assisted perhaps by the subsequent exposure to the air) mostly becomes smooth and shining. When recently opened, the substance of the outer peridium is thick and succulent, and the inner peridium appears sessile; the colour is also white or slightly grey, faintly tinged with red. In a short time, the succulent lining of the outer peridium cracks, and generally peels off, though it sometimes contracts and remains permanent. If it peels off, the part left becomes in age dingy and reddish, very thin, and somewhat shining. If it does not peel off, a dingy greyish hue is retained. After the contraction or removal of the spongy portion, the inner peridium is found to be furnished with a short, thickish *stipes*, 2–3 lines in length. *Inner peridium* globose, somewhat depressed, glabrous, whitish, turning to grey, furnished with a conical orifice, composed of an indefinite number of striated segments, terminating in a tuft of woolly filaments. The interior is filled with a mass of globose *sporidia*, attached to numerous filaments, some of which ascend from the base; but the greater part proceed from the inner surface of the peridium to the centre.

It is with peculiar satisfaction that I find myself enabled to publish a figure illustrative of the beautiful genus *Geastrum*. It is recorded by Mr WOODWARD in the second volume of the Linnean Transactions, that Sir J. E. SMITH discovered the species now described near Edinburgh in the year 1782. Since that period, it remained unnoticed in Scotland, till Mr HERIOT found a solitary specimen recently in Fifeshire, of which an excellent drawing was immediately taken by Mrs HERIOT. In order to render my representation, however, more complete, specimens in different stages of growth have been kindly communicated to me from England, by Mr PURTON and the Rev. W. T. BREE.

The same degree of uncertainty respecting the proper synonymes of this species, as existed when WOODWARD published his excellent account of the British *Geastra*, remains in full force. *G. rufescens* of PERSOON seems to differ only by the inner peridium being sessile. PERSOON has referred to SCHÆFFER's figure, t. 182., which WOODWARD has justly observed to be perfectly similar to our plant recently opened, when the peduncle is invisible. His drawing was obviously taken from newly opened specimens, and therefore *may* be actually *G. multifidum*. The *G. coronatum* of PERSOON I consider as decidedly our species;

and the author refers to SCHMIDEL's Icones, t. 46 (a work I have no means of consulting), which, according to WOODWARD, " certainly belongs to *Lycoperdon stellatum*." The var. β, however, of PERSOON's *G. coronatum*, is a distinct species, the *G. striatum* of DE CANDOLLE, and well figured in the New Series of the " Flora Londinensis." *G. multifidum* of PERSOON and of DE CANDOLLE, is acknowledged by both authors to be the *Lycoperdon stellatum* of WOODWARD, and consequently of LINNÆUS. The description also agrees in every particular. I have therefore adopted their specific name; for the older one of *stellatum* cannot well be associated with the generic name of *Geastrum*.

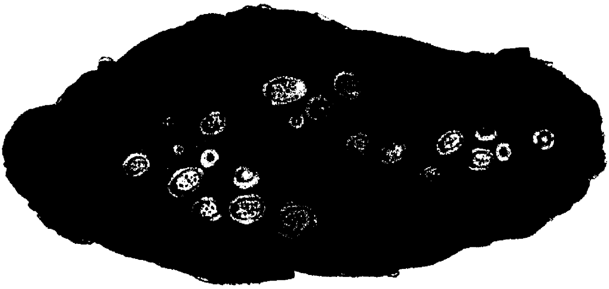
If the species figured by SOWERBY in his " English Fungi" at tab. 82. under the name of *Lycoperdon recolligens* (subsequently named *L. sessile*) has really a sessile inner peridium, it will probably be the *Geastrum rufescens* I have already alluded to, and of which DE CANDOLLE has remarked, that it grows in similar situations as *G. hygrometricum* (*Lycoperdon recolligens*, WOODW.), and is probably only a variety of that plant. There is no doubt, however, of it being sufficiently distinct.

There is one appearance occasionally presented by *G. multifidum*, which, to a person unacquainted with the plant in its growing state, is extremely perplexing. I allude to the very rough, partly granulated, partly tomentose coat, which sometimes covers the surface of the outer peridium. It is at all times present in *G. fornicatum* (*G. quadrifidum*, PERS.); but I only know of one writer who has mentioned it as a character belonging to any other species. PERSOON, speaking of the segments of the outer peridium of *G. coronatum* (our species), says, " radiis multifidis umbrinis externe *granulosis* subexpansis." Two of the specimens communicated to me by Mr PURTON exhibited this roughness, while a third was so wholly destitute of it, as to be smooth and shining. Mr PURTON informs me that it depends upon circumstances (in part probably atmospheric ones) how far this rough tomentose coat is removed; and that he has specimens in his possession half-denuded of it, and the denuded portion smooth and shining.

The size of this fungus varies exceedingly. The outer peridium, when fully extended, has a span from two to five inches; and the inner peridium has a diameter from little more than half an inch to above one inch.

The colour of the mass of sporules and filaments is a dark purplish-brown. The filaments are strong and rigid, and form a great contrast to the delicate woolly substance in the peridia of the Lycoperdons.

Fig. 1. *A young plant of G. multifidum in the act of bursting.* Fig. 2. *A plant recently expanded, with the spongy substance of the outer peridium beginning to crack.* Fig. 3. *A large specimen, in which the spongy substance has entirely vanished, and the colour deepened by age.* Fig. 4. *A specimen in which the rough external coat is persistent; the spongy substance also dried, without peeling off.—A portion of the inner peridium cut away;* natural size. Fig. 5. *The orifice.* Fig. 6. *Sporidia, and filaments arising from a small portion of the peridium;* magnified.



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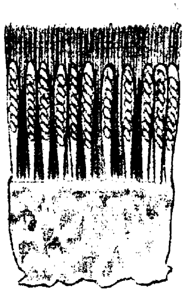

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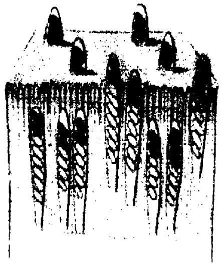

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ASCOBOLUS FURFURACEUS.

Common Ascobolus.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *FUNGI*, *Link.*

GENERIC CHARACTER.

Receptaculum carnosum, primo clausum, demum planiusculum, marginatum. Asci prominentes, demum elastice dissilientes.

Receptacle fleshy, at first closed, at length somewhat plane, marginated. Asci prominent, at length elastically ejected.

SPECIFIC CHARACTER.

ASCOBOLUS furfuraceus; *sessilis, subconcavus, fuscus vel virescens, externe furfuraceus.*—FRIES.

A. sessile, somewhat concave, brownish or greenish, externally furfuraceous.

ASCOBOLUS furfuraceus, *Pers. Obs. Myc.* 1. p. 33. t. 4. f. 3–6.—*Syn. Fung.* p. 676.—*Mycol. Europ.* v. 1. p. 340.—*Alb. et Schwein.* p. 348.—*Schum. Fl. Sæll.* v. 2. p. 436.—*Rebent. Fl. Neom.* p. 388.—*Mart. Fl. Erlang.* p. 472.—*Schwein. Fung. Carol.* No. 1270.—*Fries, Syst. Myc.* v. 2. p. 163. *Hook. Fl. Scot.* Pt. 2. p. 33.—*Grev. Fl. Edin.* p. 426.

PEZIZA stercoraria, *Bull. Champ.* p. 256. t. 376.—*Sow. Fung.* t. 18. et 389. f. 3,–6.—*De Cand. Fl. Franç.* v. 2. p. 79.—*Ejusd. Syn.* p. 16.—*With. Bot. Arr.* v. 4. p. 421.—*Purt. Midl. Fl.* v. 2. p. 687.

PEZIZA fusca, *Bolt. Fung.* t. 109. f. 2.

PEZIZA atra, *Huds. Fl. Angl.* v. 2. p. 639.

HAB. On cow-dung, common throughout the year.

Plant of a greenish, olivaceous, or brownish colour, gregarious, sessile, 1–2 lines in breadth, the exterior roughish or furfuraceous, at first globose and closed, then gradually opening, the margin thin and inflexed, at length becoming plane or somewhat concave, with the margin erect. *Disk* of the *hymenium* dotted with little black points, which are the summits of the *Asci.* These, in the young state, are concealed, but, as they arrive at maturity, are exserted, and at length ejected with an elastic force. They contain eight oval *sporidia,* which are colourless and pellucid before the ejection of the asci, but at that period become black and opaque.

There can scarcely be a more common plant than this species of *Ascobolus*, and it is therefore at the command of any one who wishes to satisfy himself by microscopical investigation of the nature of the genus. Except in the striking peculiarity of the fructification, the *Ascoboli* do not differ from the *Pezizæ*, and, except by one somewhat versed in mycology, would be at once pronounced *Pezizæ*. PERSOON established the genus in his Observationes Mycologicæ, published in 1796. In his Mycologia Europæa, seven species are enumerated; eleven in the Systema Mycologicum of FRIES.

Fig. 1. *A. furfuraceus,* natural size. Fig. 2. *Plants of different forms, and in different stages of growth.* Fig. 3. *A portion of the hymenium before maturity.* Fig. 4. *A portion in the act of ejecting the asci.* Fig. 5. *Asci and sporidia;* magnified.

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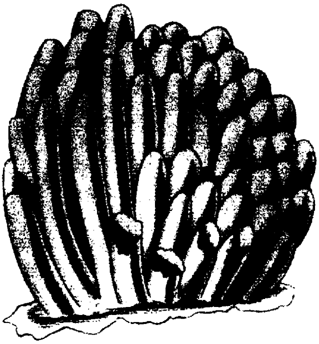

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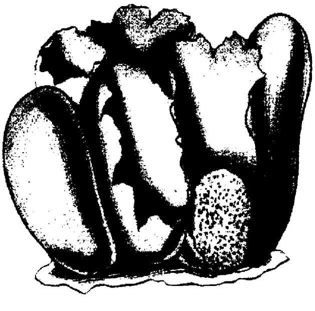

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LICEA FRAGIFORMIS.

Red Licea.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—*GASTEROMYCETES,* ORD. II. TRICHOSPERMI, *Fries.*

GENERIC CHARACTER.

Peridium papyraceum, determinatum, simplex, lævē, irregulariter ruptum. Flocci nulli.—FRIES.

Peridium papyraceous, determinate, simple, smooth, bursting irregularly. Filaments none.

SPECIFIC CHARACTER.

LICEA fragiformis; *subrotunda, e tubulis adnatis numerosis composita, primo rubra, demum ferruginea; tubulis apice liberis.*

L. somewhat round, composed of numerous adnate tubes, at first red, then brownish; the tubes free at their apex.

LICEA fragiformis, *Nees, Syst.* p. 28. t. 8. f. 102.—*Mart. Fl. Crypt. Erlang.* p. 372.

LICEA tubulina, *Schrad. Nov. Gen. Pl.* p. 16.

TUBULINA fragiformis, *Pers. Meth. Fung.* p. 11.—*Obs. Myc.* 2. p. 29.—*Syn. Fung.* p. 198.—*Alb. et Schwein.* p. 110.—*Schwein. Fung. Carol.* No. 419. —*De Cand. Fl. Franç.* v. 2. p. 250.—*Ejusd. Syn.* p. 25.

TRICHIA fragiformis, *With. Bot. Arr.* v. 4. p. 475. *sec. syn. Bull.*—*Relh. Fl. Cant.* p. 576. *exl. syn. Batsch.*

SPHÆROCARPUS fragiformis, *Bull. Champ.* p. 141. t. 384.—*Purt. Midl. Fl.* v. 3. p. 312.

STEMONITIS ferruginosa, *Batsch. Elen. Fung. Cont.* 1. p. 263. t. 30. f. 175.

TUBULIFERA arachnoidea, *Jacq. Miscell. Aust.* v. 1. p. 144. t. 15.

TUBULIFERA cremor, *Fl. Dan.* t. 659. f. 1.

TUBULIFERA ceratum, *Fl. Dan.* t. 659. f. 2.?

RETICULARIA multicapsula, *Sow. Fung.* t. 179.?

MUCOR tubulosus, *Retz, Fl. Scand.* p. 259. *fide Persoon.*

HAB. On rotten wood, dead leaves, mosses, grasses, &c. In summer and autumn, after rainy weather, not unfrequent.

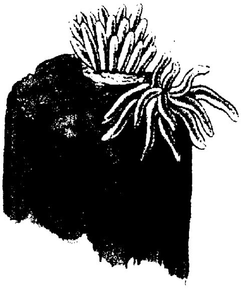
Plant in its early state soft and mucilaginous, at length consolidating, of a roundish form, half an inch to two inches in breadth, of a red colour, and very fragile membranaceous texture. The whole mass is seated upon a thin pale membrane, and is composed of a congeries of tubes or *Peridia,* intimately united together, except at the top, where they are free, and give a papillate character to the surface. When mature, the red colour gradually changes to a reddish-brown, the tubes burst irregularly at the summit, and discharge the *sporidia,* which are minute, globose, brown, and totally unmixed with filaments. The remains of the peridia often exist for a long time after the sporidia have escaped.

By establishing the genus *Perichæna,* FRIES has enabled himself to define, with greater precision, that of *Licea,* into which he admits (with much reason), the *Tubulinæ* of PERSOON. His observation is very just, that although, in some of these plants, the general mass may appear to have an indeterminate form, the individual peridia of which they are composed are regular. They enter, therefore, with strict propriety, into a genus, the form of whose peridia is determinate.

Licea fragiformis is a remarkably pretty fungus, and, from its red colour, papillose surface, and somewhat globular form, bears a considerable resemblance to a strawberry. Along with some other kinds, which are mucilaginous in their young state, it most frequently occurs after a series of rainy days; and consequently, in a dry summer is rarely to be met with.

Of the figures I have quoted, those of BULLIARD, JACQUIN, and BATSCH, certainly belong to our plant. Those of the Flora Danica are rather too indefinite for me to decide positively in their favour; and the same may be observed of SOWERBY's figure of his *Reticularia multicapsula,* which, in common with many of his representations of small fungi, is executed more with a view to general habit than minute character. I have occasionally seen this species as much effused, and as large as his figure.

Fig. 1. *Licea fragiformis,* natural size. Fig. 2. *A portion of a plant.* Fig. 3. *Peridia bursting.* Fig. 4. *Sporidia;* magnified.



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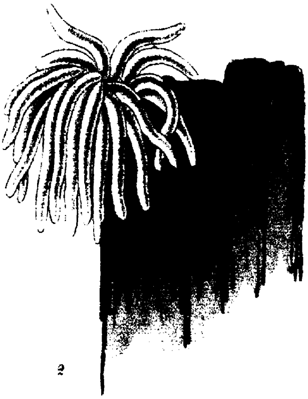

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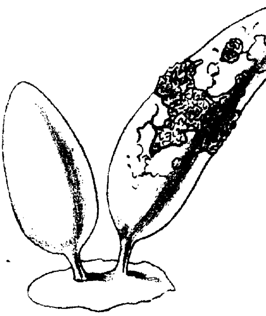

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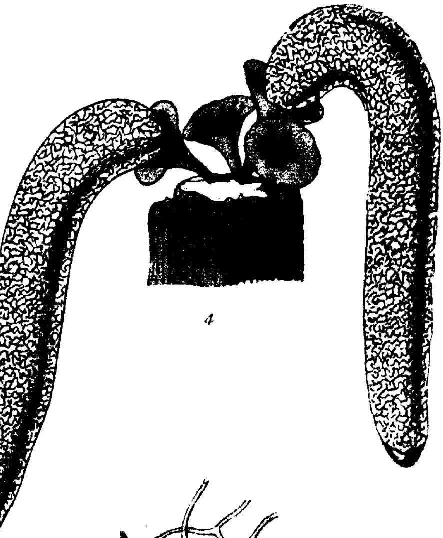

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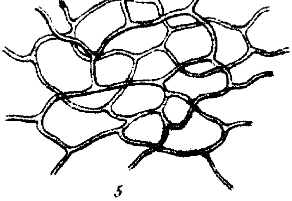

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ARCYRIA FLAVA.

Yellow Arcyria.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—*GASTEROMYCETES*, ORD. II. TRICHOSPERMI, *Fries*.

GENERIC CHARACTER.

Peridium membranaceum, circumscissum, parte superiore fugacissima. Flocci reticulati basi adnati. Sporidia floccis inspersa.

Peridium membranaceous, bursting transversely, the upper portion very fugacious. Flocci reticulated, fixed to the base. Sporidia among the flocci.

SPECIFIC CHARACTER.

ARCYRIA flava; *sordide flava, capillitio cylindrico valde elongato, laxissimo, nutante.*

A. dull yellow, capillitium (or mass of filaments) cylindrical, much elongated, very lax, drooping.

ARCYRIA flava, *Pers. Obs. Mycol.* 1. p. 58.—*Syn. Fung.* p. 184.—*Alb. et Schwein.* p. 101.—*Schwein. Fung. Carol.* No. 395.—*Mart. Fl. Erlang.* p. 379.—*Nees, Syst.* p. 32. t. 10. f. 115.—*Hook. Fl. Scot.* Pt. 2. p. 13.

ARCYRIA nutans, *Grev. Fl. Edin.* p. 455.

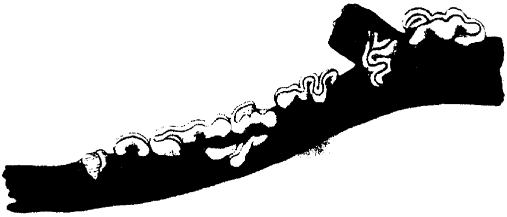
TRICHIA nutans, *Bull. Champ.* p. 122. t. 502. f. 3.—*De Cand. Fl. Franç.* v. 2. p. 254.—*Ejusd. Syn.* p. 53.—*With. Bot. Arr.* v. 4. p. 474.—*Dicks. Fasc. Crypt.* 3. p. 23.—*Sow. Fung.* t. 260.—*Purt. Midl. Fl.* v. 2. p. 720. et v. 3. t. 24. f. 1.

HAB. On rotten wood, summer and autumn, not frequent.

Plant gregarious, or growing in small tufts, upon a thin, pale, subjacent membrane, and of a dull yellow or buff colour. *Peridium* ovate-cylindrical, whitish when quite young, soon becoming yellow and membranaceous, the upper portion very evanescent, a small cup-shaped portion at the base, persistent. As the peridium disappears, the *capillitium* or internal reticulated mass of filaments expands and elongates elastically, till it becomes half an inch or more in length, cylindrical, exceedingly lax, and drooping by its own weight from the very base. For some time, it is fixed to the centre of the persistent cup-shaped portion of the peridium, but at length separates. *Sporidia* globose, yellow, profuse, under a high power of the microscope almost diaphanous.

The splendid though common species *Arcyria punicea*, has already found a place in this work. The one now represented is much more rare, and scarcely less beautiful. Indeed, nothing can exceed the elegance of a tuft of this fungus, after it has acquired its drooping character. SOWERBY has suggested that both these species may be the same in different states;—an opinion, however, which has nothing to support it, and only serves to prove the peculiar habit of the genus.

Fig. 1. *A. flava, before the peridium has completely vanished.* Fig. 2. *A tuft after the capillitium has elongated;* natural size. Fig. 3. *A young plant, and one in the act of bursting.* Fig. 4. *Plants shewing the capillitium and persistent cup-shaped portion of the peridium.* Fig. 5. *A portion of the capillitium.* Fig. 6. *Sporidia;* magnified.



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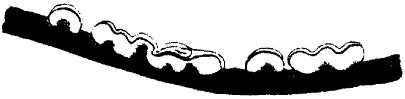

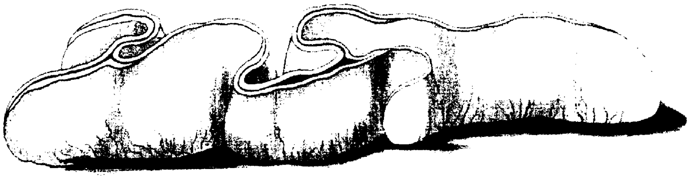

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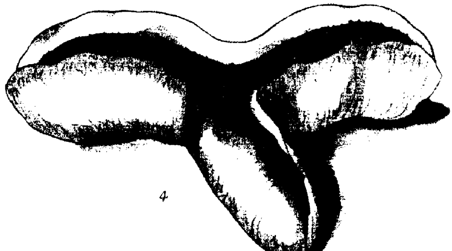

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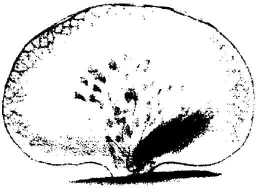

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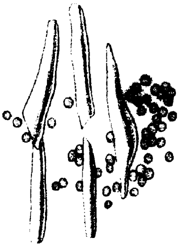

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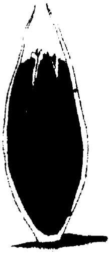

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ANGIORIDIUM SINUOSUM.

Flexuose Angioridium.

Class and Order CRYPTOGAMIA ALGÆ, *Linn.*—*GASTEROMYCETES*, Ord. II. Trichospermi ? *Fries.*

GENERIC CHARACTER.

Peridium determinatum, simplex, papyraceum, fragile, verticali-compressum, rima longitudinali rumpens. Sporidia corpusculis erectis linearibus (plicis obsoletis ?) coacervata.

Peridium determinate, simple, papyraceous, fragile, vertically compressed, bursting by a longitudinal fissure. Sporidia collected among linear erect bodies (obsolete folds ?).

SPECIFIC CHARACTER.

Angioridium sinuosum ;......................

Reticularia sinuosa, *Bull. Champ.* p. 94. t. 446. f. 3.—*Sow. Fung.* t. 6.—*With. Bot. Arr.* v. 4. p. 460. *excl. syn. Batsch.*

Physarum bivalve, *Pers. Obs. Myc.* 1. p. 6. t. 3. f. 2,–3. *malè.*—*Syn. Fung.* p. 169.

Trichia sphærica, *β* polymorpha, *Trentep. in Roth. Cat. Bot.* v. 1. p. 230. *fide Persoon.*

Hab. On dead leaves, mosses, small sticks, &c. in woods; rare. [illegible] Belvedere Kent [illegible]. Autumn.

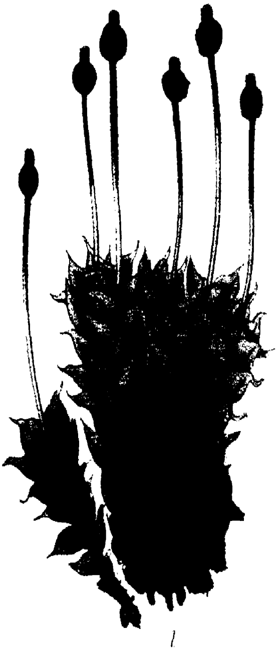
Plant gregarious, of a white colour. *Peridium* about the eighth of an inch in height, simple, sessile, papyraceous, somewhat rigid, fragile, rugulose, varying in form ; sometimes exactly like a roundish bivalve shell, at others lengthened out at each extremity in a creeping, flexuose manner, for half an inch or more, and either simple or divided. It is, however, always erect, and vertically compressed, the summit forming a sharp edge. When mature, it bursts longitudinally, the two plates separating at the margin sufficiently to allow the sporidia to escape. *Sporidia* globose, blackish, forming a compact mass, intermixed with linear, erect, white, opaque bodies, which appear to be the fragments of some organ not perfectly developed.

After a careful perusal of the genera of *Gasteromycetes* in Fries's " Systema Orbis Vegetabilis," I cannot find any one to which the present very curious plant may be referred. It is difficult to conceive, that a fungus figured by Bulliard and Sowerby should have been lost sight of by that excellent author; and yet I am almost inclined to believe that such has been the case. Among the *Gasteromycetes*, it is as singular as the genus *Lophium* among the *Pyrenomycetes*. With the suborder *Physarei* it agrees, except in the character " sporidia floccis paucis vage intertexta;" but, setting this discrepancy aside, it cannot be referred to *Physarum, Leangium, Craterium, Perichæna*, or *Licea*, the only genera in that suborder which have a simple peridium. With the suborder *Trichiacei* it cannot possibly be united; and the character of the order *Trichodermacei* equally excludes it. Nevertheless, the white, opaque linear bodies which penetrate the mass of sporidia, have some remote affinity with the lamellated structure of some genera in the latter order. These remarkable bodies (for they cannot be called filaments) were thus noticed by Persoon: " Fila seminifera compacta parietibus arcte adnata, pariter cinerea sunt." It is, however, not correct to say they adhere closely to the peridium, for they are all left behind when the peridium is removed, and besides, they occur also in the centre of the sporidia, though not so numerous. Their origin appears to be at the base.

Under the impression that there are abundant characters for constituting a distinct genus, I have named it *Angioridium*.

Besides the few specimens discovered in Scotland, I have received others from the north of England, found by my friend W. C. Trevelyan, Esq.

Fig. 1. *A. sinuosum*, natural size. Fig. 2. *An elongated peridium.* Fig. 3. *A small and more perfect one.* Fig. 4. *Another peridium after dehiscence.* Fig. 5. *A vertical transverse section of a peridium.* Fig. 6. *Sporidia, and the bodies with which they are intermixed;* magnified.



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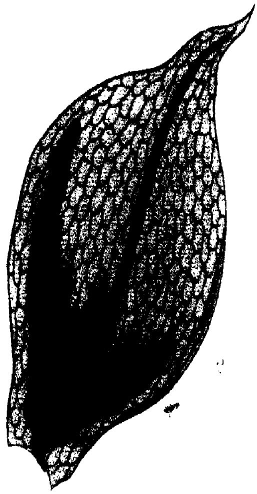

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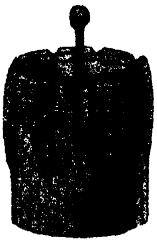

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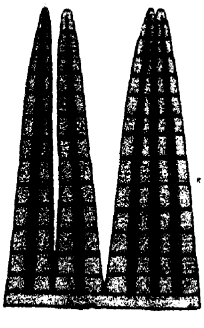

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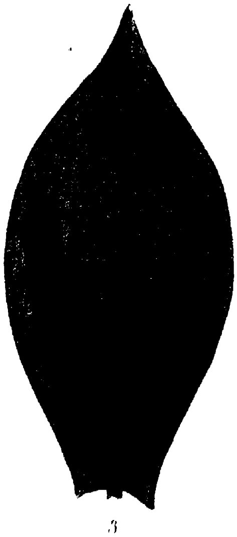

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SPLACHNUM VASCULOSUM, var. ACUTIFOLIA.

Rugose-fruited Splachnum; acute-leaved var.

For the usual appearance of *Splachnum vasculosum*, accompanied by its synonyms and a description, see t. 179. of this Work.

The present remarkable variety is distinguished by the much shorter stems, the dingy, almost black colour, and above all by the acute termination of the leaves. It occurs on Ben Lawers, and other neighbouring mountains, in bare wet spots, and does not form the fine tufted masses which render the common state of the species so conspicuous.

To the subject of this illustration I have alluded at t. 179. It is the *Splachnum rugosum* of "English Botany," t. 2094., and of WEBER and MOHR. In "English Botany," the figure is taken from specimens communicated by Mr G. DON, and supposed to be similar to those found by Mr DICKSON, the original discoverer. As the authors of the Muscologia Britannica, however, examined DICKSON's specimens, and found them to be *Splachnum sphæricum*, it is most probable that Mr DON is the first authority for the plant now described.

It must be confessed that there is no character except the acuteness of the leaves to keep it distinct from *S. vasculosum*, and, though a good deal of importance is usually attached to this character, I am now induced to resign my former opinion, and to consider this deviation in the present instance as only marking a singular variety. The rugosity of the apophysis is equally striking in both states, as well as the vascularity of the leaves.

It is proper to notice here, that I have adopted the generic character of *Splachnum* laid down by Mr WALKER ARNOTT and myself in our article on the *Splachnoideæ*, in the fifth volume of the Wernerian Transactions. By our definition of *Splachnum*, we exclude the *Splachnum Frœlichianum* of HEDWIG and the Muscologia Britannica, and place it with some other mosses in a genus we have named *Dissodon*. In

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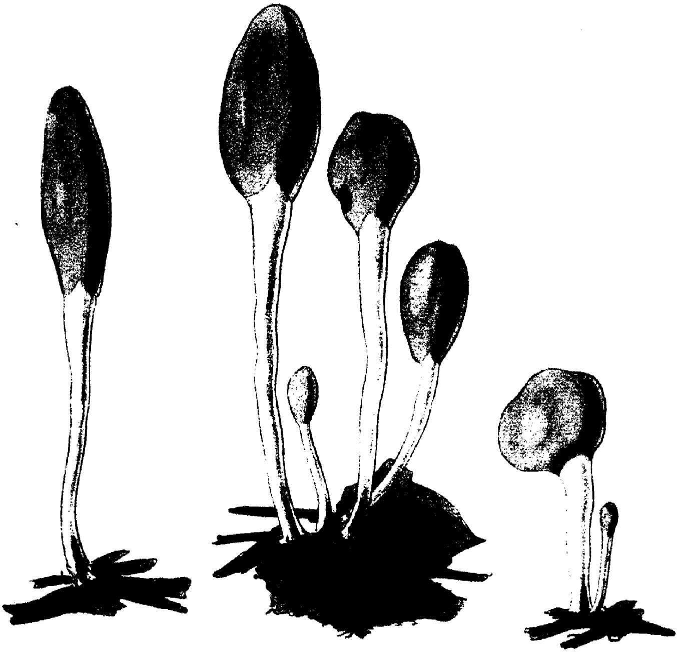
In the essay above mentioned, we have given our reasons at considerable length for this change, the result of a careful analysis of nearly every known species.

Fig. 1. *S. vasculosum,* var. *acutifolia,* natural size. Fig. 2. *One of the upper leaves.* Fig. 3. *One of the lower leaves.* Fig. 4. *Capsule and apophysis.* Fig. 5. *Capsule and peristome.* Fig. 6. *Portion of the peristome;* magnified.



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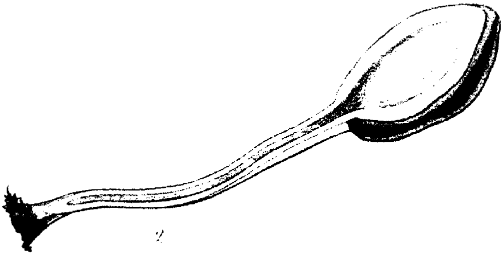

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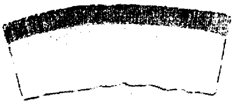

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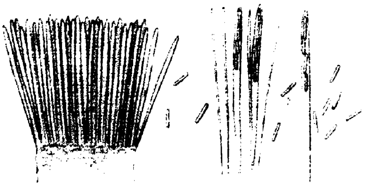

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LEOTIA ULIGINOSA.

Marsh Leotia.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *FUNGI*, *Link.*

GENERIC CHARACTER.

Pileus ovato-conicus aut orbicularis, fructificatione undique instructus, margine libero stipitem arcte ambienti.

Pileus ovate-conical or orbicular, wholly occupied by the fructification; the margin free, closely embracing the stipes.

SPECIFIC CHARACTER.

LEOTIA uliginosa; *subgregaria; pileo flavo, plus minusve ovato, obtuso; stipite pallido.*

L. somewhat gregarious; pileus yellow, more or less ovate, obtuse; stipes pale.

LEOTIA uliginosa, *Pers. Mycol. Europ.* v. 1. p. 200.—*Grev. Fl. Edin.* p. 416.
LEOTIA epiphylla, *Hook. Fl. Scot.* Pt. 2. p. 30.
LEOTIA Ludwigii, *Pers. Syn. Fung.* p. 611. t. 3. f. 13.—*Alb. et Schwein.* p. 296.
LEOTIA Bulliardi, *Pers. Syn. Fung.* p. 612.—*Fl. Dan.* t. 1377.—*Schwein. Fung. Carol.* No. 1118.
LEOTIA Dicksoni, *Pers. Syn. Fung.* p. 612.
LEOTIA laricina, *Pers. Syn. Fung.* p. 614.
MITRULA paludosa, *Fries, Syst. Myc.* v. 1. p. 491.
CLAVARIA epiphylla, *Dicks. Crypt.* fasc. 3. p. 22. t. 9. f. 10.—*With. Bot. Arr.* v. 4. p. 430.—*Sow. Fung.* t. 293.
CLAVARIA phalloides, *Bull. Champ.* p. 214. t. 463. f. 3.
HELVELLA Bulliardi, *De Cand. Fl. Franç.* v. 2. p. 95.
HELVELLA laricina, *Vill. Delph.* t. 55. *fide De Cand.*

HAB. Among dead leaves and mosses in damp or watery shady places. Summer and autumn, not unfrequent.

Gregarious, occasionally somewhat tufted. Whole plant from one to three inches high, succulent and brittle, perfectly glabrous, hollow, and sometimes filled with water. *Head* or *Pileus* more or less ovate, but liable to great variation in form, very obtuse at the summit, of a delicate bright orange-yellow colour, and wax-like consistence: the interior in the early state containing a mass of fine white silky filaments, afterwards quite hollow. *Stipes* mostly crooked, cylindrical, white pinkish or yellowish, hollow, attenuated towards the base, where it often becomes of

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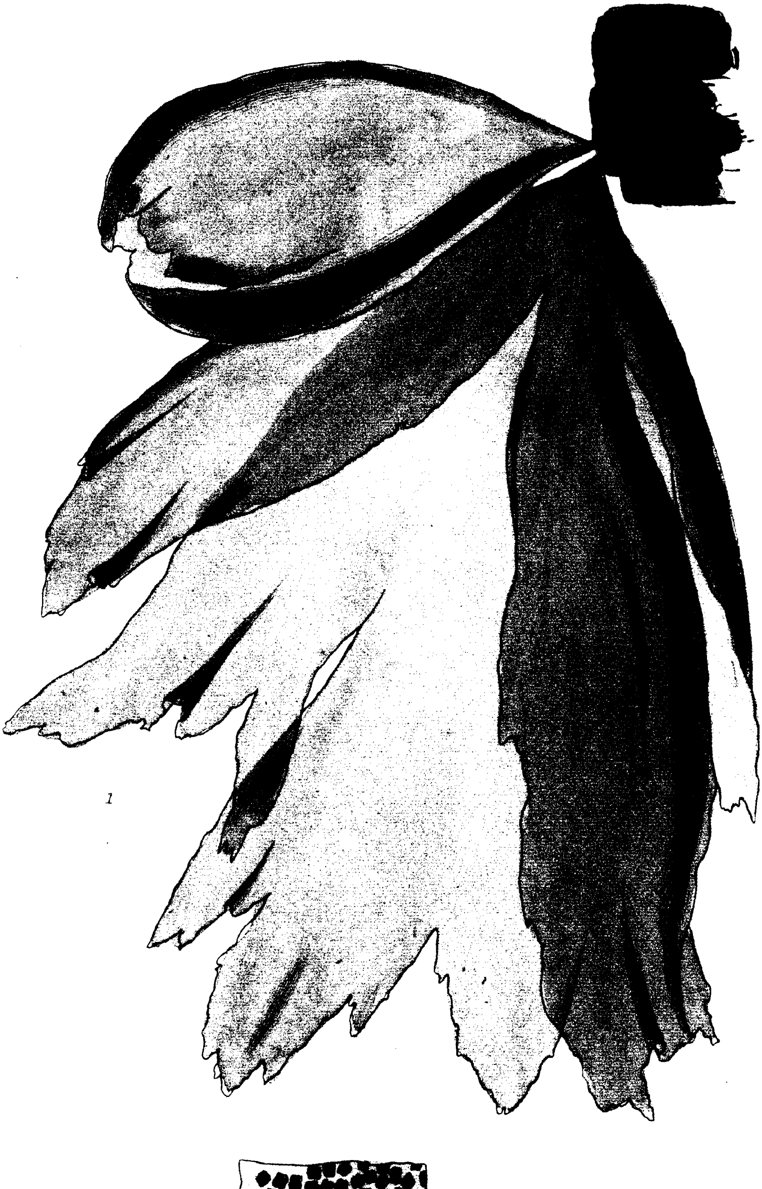
a darker colour. *Fructification* covering the whole of the pileus. *Asci* linear, containing about four linear truncate *sporidia*.

A very beautiful little fungus, not unfrequently occurring in open drains, and on the mossy margins of little streams in shady woods and plantations. The specimens from which the annexed figure was taken, were gathered in the grounds of Kames Castle in the Isle of Bute.

Fig. 1. *Leotia uliginosa.* Fig. 2. *A longitudinal section,* natural size. Fig. 3. *A portion of the hymenium.* Fig. 4. *Asci and sporidia;* magnified.



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2

ULVA LACTUCA.

Small green Sea Laver.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss.*

GENERIC CHARACTER.

Frons plana vel tubulosa (?) membrana æquali (nec striato-areolata). Granulæ quaternatæ.

Frond plane or tubular (?) the membrane equal (not striated in a reticulated manner).ni Gramules in fours.

SPECIFIC CHARACTER.

ULVA lactuca; *fronde obovata, tubulata, inflata, subgelatinosa, demum ad basin fissa, laciniis planis inæqualibus, semipellucidis.*

U. frond obovate, tubular, inflated, subgelatinous, at length cleft to the base, the segments plane, unequal, semitransparent.

ULVA lactuca, *Linn. Sp. Pl.* 1632.—*Vinc. Pet. Inst. Bot.* v. 5. p. 2103.—*Ag. Sp. Alg.* p. 409.—*Syst. Alg.* p. 189.

TREMELLA marina vulgaris, Lactucæ similis, *Dill. Hist. Musc.* p. 42. t. 8. f. 1.

HAB. In the sea, attached to rocks or other algæ; May and June. Island of Bute, abundant. Frith of Forth. I have also gathered specimens in Torbay in England, growing upon *Cystoseira ericoides.*

Fronds generally produced in a crowded manner, especially when growing from the sides of small rocky pools, three to six inches in length, of a pale yellowish-green colour, and exceedingly thin, membranous, semitransparent somewhat gelatinous substance; at first entire, hollow, inflated, and of an obovate figure; at length variously lacerated, or divided into unequal and irregular portions, to the very base. *Granules* in fours, the quaternate groups arranged in no specific order.

The frond adheres closely to paper, when dried, and has then a shining appearance.

This species of *Ulva*, if it has been noticed at all in this country, has been so confounded with *Ulva latissima*, that it is impossible to determine the synonymes with any degree of accuracy. The figure in "English Botany," given under the name of *lactuca*, is certainly *latissima*,—at least the *Ulva lac-*

tuca of AGARDH (and I have specimens from himself), is quite another plant, and agrees much better with the descriptions of DILLENIUS and LINNÆUS. It adheres most closely to the paper upon which it is dried, and acquires a fine shining surface. *Ulva latissima* of LINNÆUS and AGARDH, on the contrary, scarcely adheres at all to the paper, and has, comparatively speaking, a dull surface. Its size is vastly larger, its colour darker, and its substance thicker.

Having resided during the spring of the present year (1827) on the sea-coast, I availed myself of the opportunity to study the progress of several *Algæ*, from their early to their mature state. From what I observed in regard to the present species, I am induced to suspect that there is no natural separation between the Agardhian genera *Tetraspora* and *Ulva*, the only alleged decided difference being a tubular and a plane frond. *Ulva lactuca* has unquestionably a tubular obovate frond, till lacerated by the action of the waves. From observations made by my friend Mr HASELL upon *Ulva latissima* (specimens of which I have seen in his collection), I believe that it also is of a similar form in its young state.

AGARDH has quoted under this species the *Ulva lactuca* of LIGHTFOOT; but it appears to me exceedingly doubtful whether that botanist knew the plant. If he did, he also has confounded it with *U. latissima*, since he gives it an extent of growth from two inches to a foot or more in length; and at the same time seems uncertain what the *U. latissima* really is.

Fig. 1. *Ulva lactuca,* natural size. Fig. 2. *Portion of the frond,* magnified.

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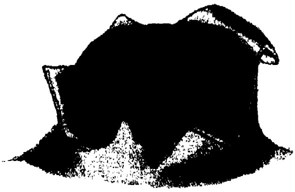

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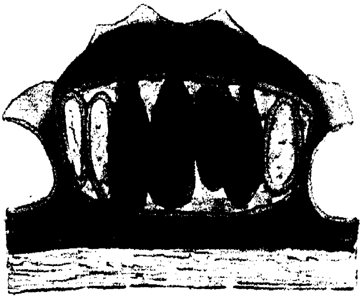

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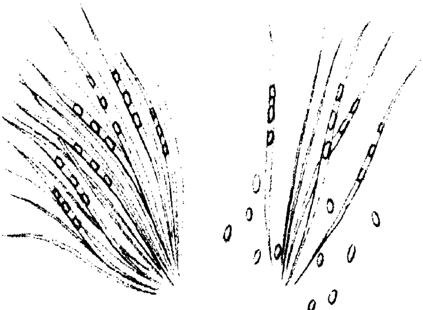


4

STROMATOSPHÆRIA DISCIFORMIS.

Disk-like Sphæria.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *HYPOXYLA*, *De Cand.*

GENERIC CHARACTER.

Receptaculum varium, sessile, liberum vel erumpens. Perithecia omnino latentia vel ore exserto; intus massa gelatinosa sporidifera instructa.

Receptacle various, sessile, free or bursting through the bark. Perithecia concealed, or furnished with a prominent orifice; filled with a gelatinous sporidiferous mass.

SPECIFIC CHARACTER.

STROMATOSPHÆRIA disciformis; *erumpens, orbicularis, plana, lævis, nigrescens, intus pallida; peritheciis ostiolis punctiformibus.*

ST. bursting forth, orbicular, plane, even, blackish, pale within; perithecia with punctiform orifices.

STROMATOSPHÆRIA disciformis, *Grev. Fl. Edin.* p. 357.

SPHÆRIA disciformis, *Hoffm. Veg. Crypt.* 1. p. 15. t. 4. f. 1.—*Ehrh. Beytr.* p. 176.—*Pers. Syn. Fung.* p. 24.—*Albert. et Schwein.* p. 11.—*De Cand. Fl. Franç.* v. 2. p. 290.—*Ejusd. Syn.* p. 60.—*Nees, Syst.* t. 41. f. 321. B. —*Schwein. Fung. Carol.* No. 51.—*Schum. Fl. Sæll.* v. 2. p. 170.—*Hook. Fl. Scot.* Pt. 2. p. 5.—*Moug. et Nestl. Stirp. Exsicc.* No. 80.—*Holl. et Schmidt, Exsicc.* No. 3.—*Fries, Sclerom. Suec.* No. 71.

SPHÆRIA depressa, *Purt. Midl. Fl.* v. 3. p. 490. *in part.*

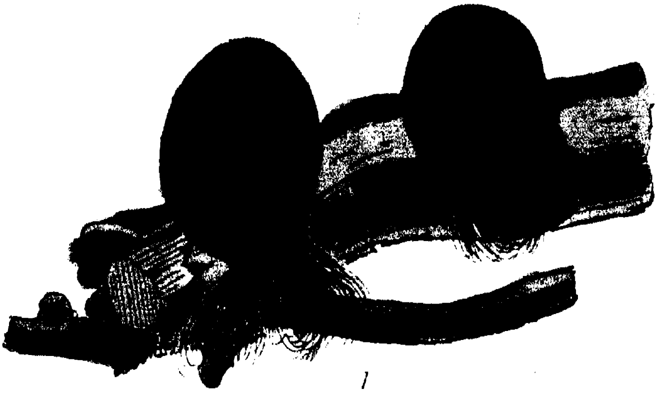
HAB. On the dead branches of various trees, but generally on those of the Beech (*Fagus sylvatica*); at all seasons, extremely common.

Gregarious, bursting through the bark, circular, about two lines in breadth, depressed, brownish-black, whitish within, glabrous, even, dotted with the orifices of the immersed perithecia. *Perithecia* mostly ovate, terminating in a narrow neck, and not at all exserted. *Asci* elongated, attenuated at each extremity. *Sporidia* yellow, oval and simple, as far as I could perceive in my specimens, but bi-septate, according to the figure published by Professor NEES VON ESENBECK.

One of the most common *Sphæriæ* in existence, at least in Europe and North America, where SCHWEINITZ finds it "copia incredibili."

No attempt has hitherto succeeded to subdivide the overgrown genus *Sphæria*. My own proposed genera of *Stromatosphæria*, *Cryptosphæria*, and also *Cucurbitaria*, I am now fully convinced cannot be sustained, and they will be erazed in the synopsis of species with which I shall shortly terminate this work. My able friend M. FRIES has, however, proposed a subdivision in his last work, upon better principles; and if the boundaries of his genera prove, upon application, sufficiently defined, a great step will be obtained in our knowledge of these plants.

Fig. 1. *St. disciformis,* natural size. Fig. 2. *An entire plant.* Fig. 3. *A plant vertically divided.* Fig. 4. *Asci and sporidia;* magnified.



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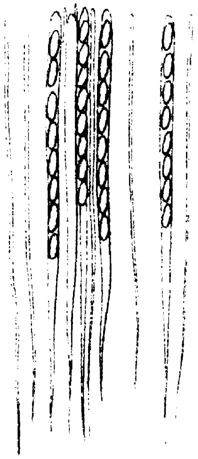

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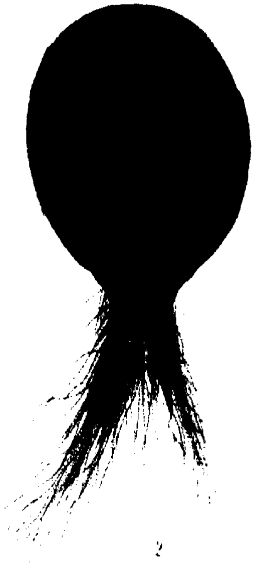

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PEZIZA ATRO-RUFA.

Black and Red Peziza.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *FUNGI*, *Link.*

GENERIC CHARACTER.

Pileus stipitatus aut sessilis, plus minusve cupuliformis vel complanatus, tubulis elongatis sporidiferis in pagina superiore.

Pileus stipitate or sessile, dilated upwards into a cup-shaped or flattish receptacle, with tubular, elongated, sporidiferous cells in the upper surface or disk.

SPECIFIC CHARACTER.

PEZIZA atro-rufa; *cupula subglobosa, ore contracto, ad basin barbato-radicata, intus atra, extus glabra, nigra, præcipue ad marginem rufo-pruinosa.*

P. cup subglobose, with a contracted orifice, fixed by a root of beard-like fibres, black within, the outer surface black, with a red bloom, especially towards the margin.

HAB. On rotten branches of trees lying on the ground, in autumn. Auchindenny wood, Dr BAINBRIDGE.

Cup from half an inch to three-fourths of an inch in diameter, nearly globose, of a firm yet brittle substance, the orifice considerably contracted, the margin rather thin, and entire, the base furnished with a mass of intensely black *radicating fibres,* an inch in length. *Hymenium* glabrous, intensely black. *Outer surface* of the cup glabrous, even, black, tinted with a brick-red bloom, especially towards the margin. *Asci* very long, somewhat clavate. *Sporidia* oval, yellow under the microscope.

This very singular species of *Peziza* appears to have a strong affinity with several others contained in FRIES's second series *(Lachnea)* of the genus; but it is remarkable for having the root composed of a beard-like mass of filaments, while the remainder of the outer surface is glabrous. I find none resembling it in FRIES or PERSOON.

Fig. 1. *P. atro-rufa,* natural size. Fig. 2. *A plant vertically divided.* Fig. 3. *Asci and sporidia;* magnified.

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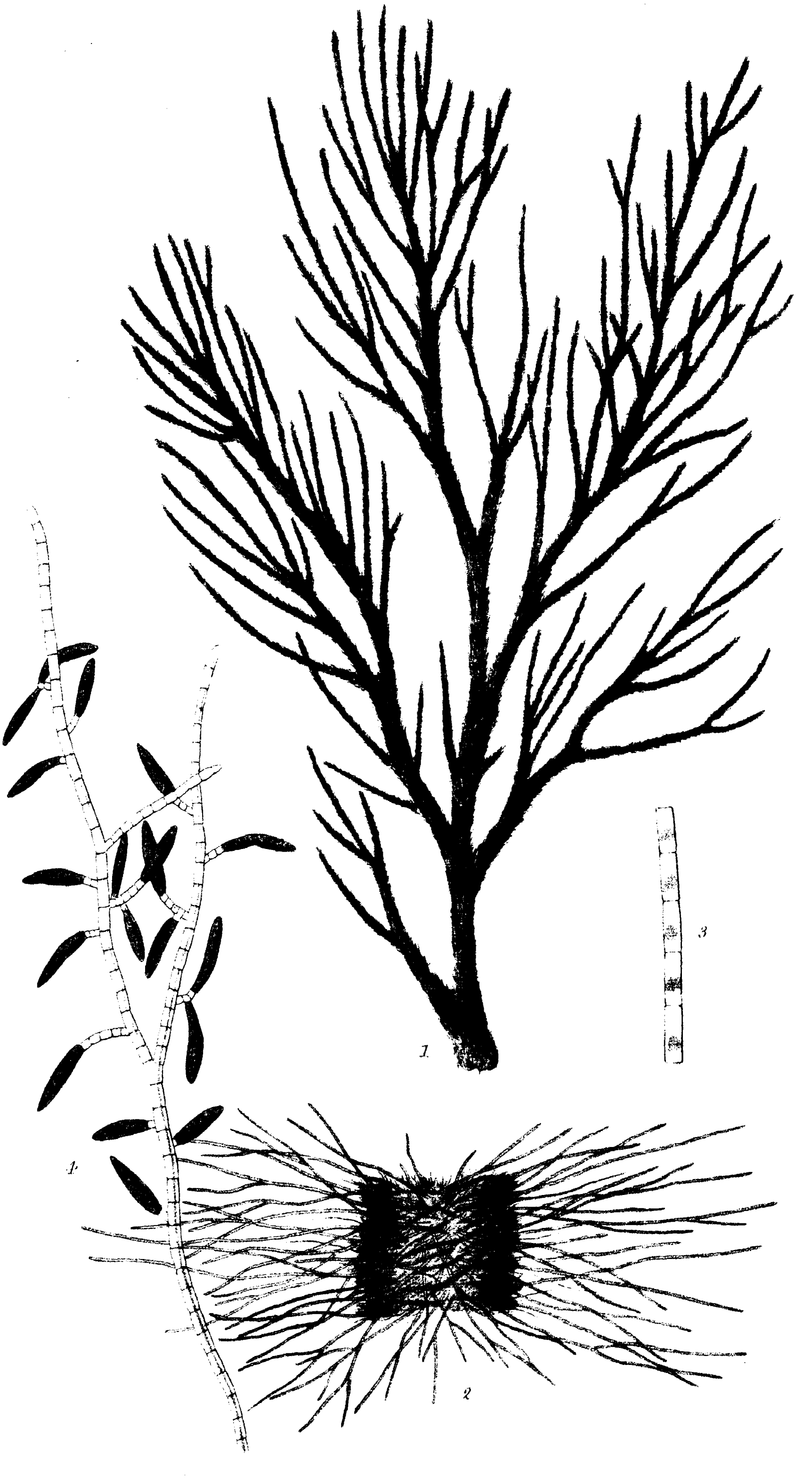
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ECTOCARPUS TOMENTOSUS.

Woolly Ectocarpus.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss.*

GENERIC CHARACTER.

Fila articulata, flexilia, olivacea. Fructus duplex; capsulæ et siliquæ.

Filaments jointed, flexible, olivaceous. Fructification twofold; capsules and pod-like bodies.

SPECIFIC CHARACTER.

ECTOCARPUS tomentosus; *fronde funiformi, sub-spongiosa, ramosa, filis densissime implexis, siliquis obtusis pedunculatis, articulis triplo longioribus.*

E. frond resembling a somewhat spongy cord, branched, composed of densely interwoven filaments; pod-like bodies pedunculate, obtuse, joints three times longer than broad.

ECTOCARPUS tomentosus, *Lyngb. Hydr. Dan.* p. 132. t. 44.—*Agardh, Syst. Alg.* p. 163.

CERAMIUM tomentosum, *Ag. Syn.* p. 64.—*Hook. Fl. Scot.* Pt. 2. p. 86.

CERAMIUM compactum, *Roth, Cat. Bot.* v. 3. p. 148.

CONFERVA tomentosa, *Huds. Fl. Angl.* p. 594.—*Lightf. Fl. Scot.* p. 981.—*Dillw. Conf.* t. 56.—*With. Bot. Arr.* v. 4. p. 159.—*Spreng. in Berl. Mag.* 1809, p. 190. t. 7. f. 12.

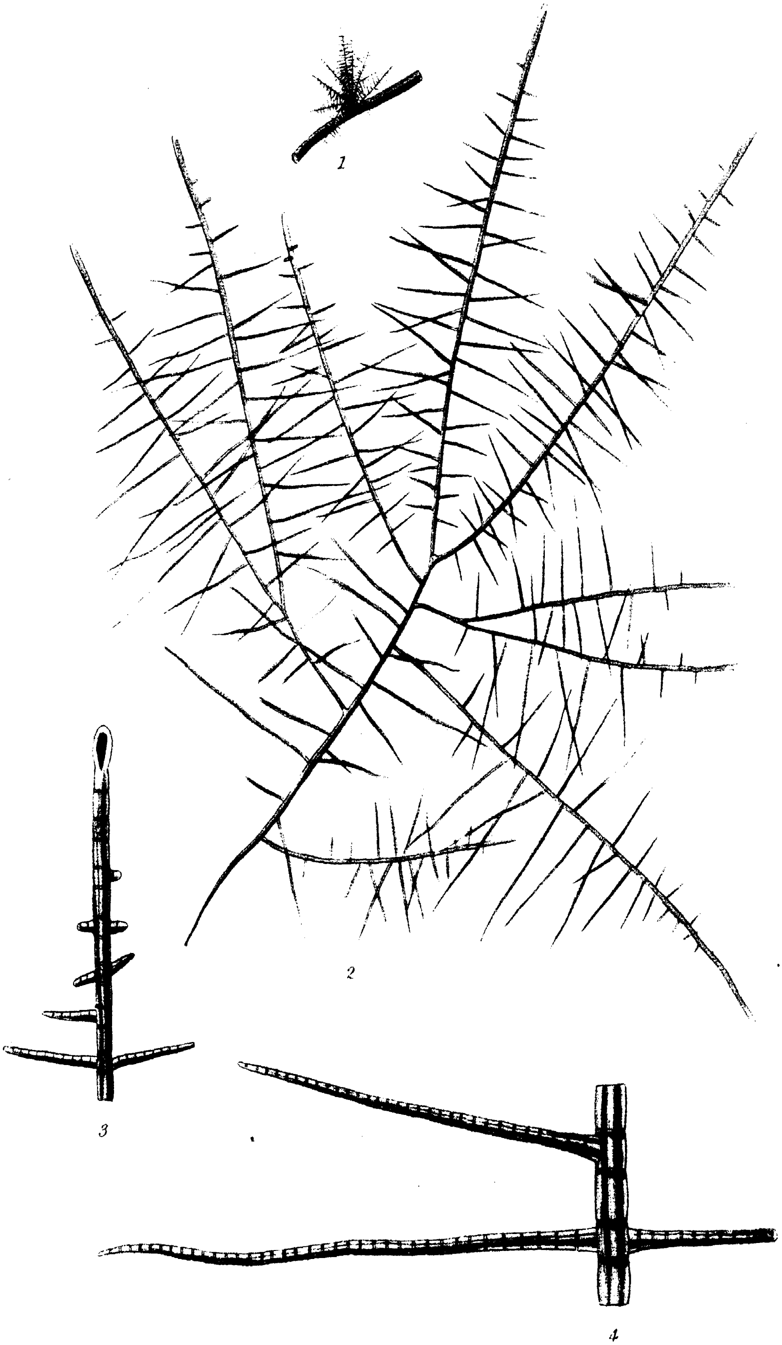
HAB. In the sea, growing upon the larger algæ. June to August. Western coast and islands of Scotland. Frith of Forth, rare. It occurs more or less on every coast of Great Britain.

Plant from one to eight inches in length, variously and irregularly divided, of a greenish-brown or pale olivaceous colour. The stem and divisions are composed of a densely entangled mass of fine branched filaments, the whole resembling a soft woolly or somewhat spongy cord. It is impossible to disentangle the filaments; but they are many times divided in a very irregular spreading manner, with the extremities obtuse. The articulations are pellucid, mostly colourless, and three or four times longer than broad, becoming shorter upwards. The *siliquæ* or pod-like opake bodies occur on simple or divided peduncles, and are of a linear-oblong, frequently curved form, obtuse at the apex.

The specimens from which the present figure was taken were gathered at the islands of Staffa and Iona, and are remarkable for their uncommon luxuriance. The species, in its usual state, rarely exceeds two or three inches. A variety is described by AGARDH under the name of *clavatus*, in which the fronds are nearly simple, about an inch long, and somewhat thickened towards the extremity. It is found in the Frith of Forth.

Ectocarpus ferrugineus, AG. seems scarcely to differ from this species, if we consider the articulations alone; for I do not find their length to be at all constant. Those in the uppermost branches of the filaments of the present individual are even shorter than they are said to be in *E. ferrugineus*, while those in the lower parts are longer. The habit of *E. ferrugineus* is, however, very different; and though the filaments are much entangled, they do not form the dense spongy cord for which *E. tomentosus*, is remarkable.

Fig. 1. *E. tomentosum,* natural size. Fig. 2. *Portion of one of the branches, with the spreading ramuli.* Fig. 3. *Portion of one of the filaments.* Fig. 4. *One of the filaments in fructification;* magnified.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SPHACELLARIA CIRRHOSA, var. PATENTISSIMA.

Small pinnate Sphacellaria,—horizontal variety.

Class and Order CRYPTOGAMIA ALGÆ, *Linn.*—Nat. Ord. *ALGÆ, Juss:*

GENERIC CHARACTER.

Frons filiformis, rigida, articulata, olivacea, ramis distichis vel dichotomis. Sporulæ vel apicibus sphacellatis ramulorum inclusæ, vel in capsulis.

Frond filiform, rigid, jointed, olivaceous, with distichous or dichotomous branches. Sporules either included in the sphacellated extremities of the branches, or in capsules.

SPECIFIC CHARACTER.

Sphacellaria cirrhosa; *filis ramosissimis tenuibus striatis, ramis alternis subpinnatis, articulis diametro æqualibus.*—Agardhi.

S. filaments much branched, slender, striated, the branches alternate, subpinnated, the articulations equal in length and breadth.

Sphacellaria cirrhosa, *Ag. Syst. Alg.* p. 164.

Sphacellaria pennata, *Lyngb. Hyd. Dan.* p. 105. t. 31.—*Grev. Fl, Edin.* p. 313.

Sphacellaria reticulata, *Fl. Dan.* t. 1600.—*Lyngb.* l. c. p. 106.

Ceramium cirrhosum, *Ag. Syn.* p. 67.—*Hook. Fl. Scot.* Pt. 2. p. 86.

Conferva cirrhosa, *Roth, teste Agardh.*

Conferva intertexta, *Roth, Cat. Bot.* v. 1. t. 5.

Conferva pennata, *Dillw. Conf.* t. 86.—*Smith, Engl. Bot.* t. 2330. *upper and lower figures.*

var. β, *Ægagropila,* filis in globum implexis, *Ag.*

Conferva pennata, *Fl. Dan.* t. 1486. f. 2.

var. γ, *minuta,* articulis diametro duplo longioribus, *Ag.*

var. δ, *reticulata,* ramis reticulato-flexuosis, *Ag.*

var. ε, *patentissima,* ramulis undique insertis, oppositis, patentissimis.

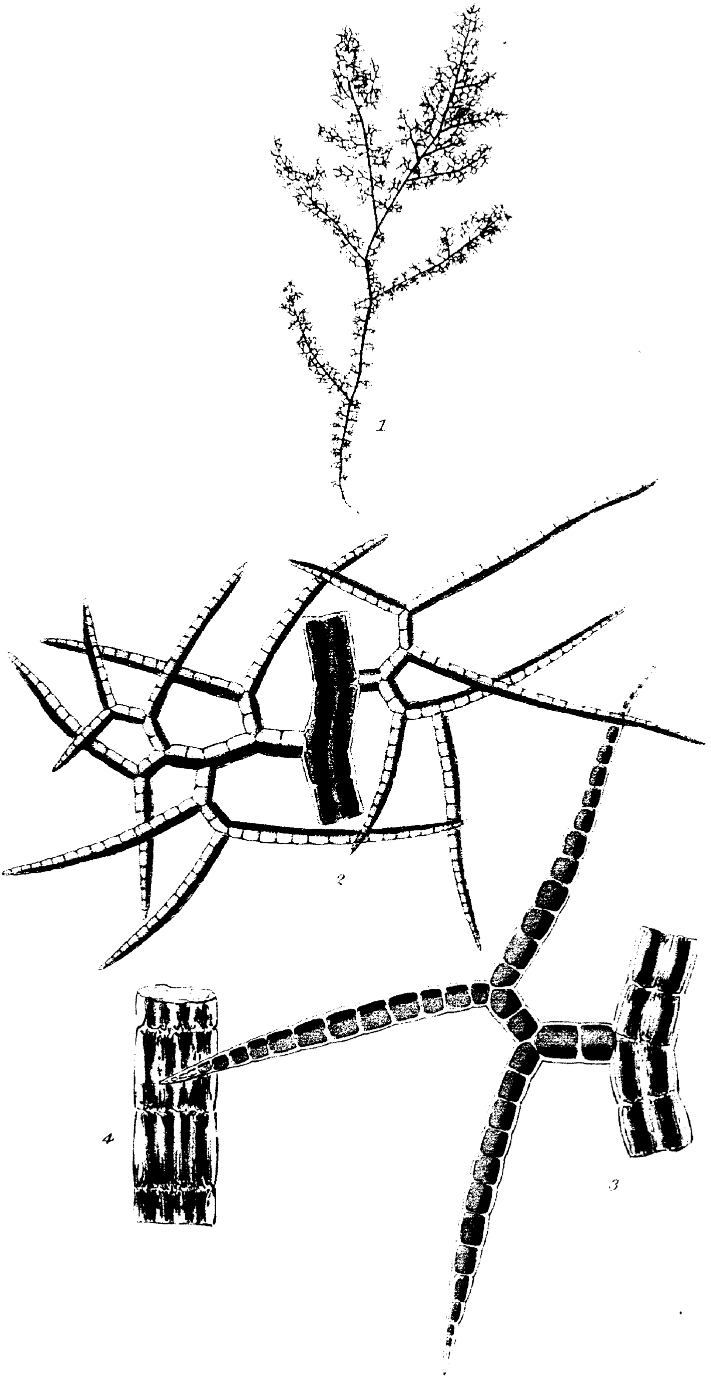
Hab. On rocks and various small Algæ in the sea. Summer. α, Very abundant. β, Shores of the Island of Bute. ε, On the same coast.

Fronds in var. ε tufted, scarcely more than half an inch in height, slender, branched in a lax straggling manner, the branches bearing numerous ramuli inserted on all sides, and standing out in a horizontal direction. The ramuli are moreover opposite, and given off by every second articulation. Under the microscope, the filament is striated, the articulations about as broad as long; but in the branches, those articulations which give off *ramuli* are shorter than the intermediate ones which give off no ramuli. I have not observed any capsules on this variety.

In the more common appearance of this species, the ramuli are alternate, merely spreading, and subpinnate.

Sphacellaria cirrhosa is so very variable a plant, that I have not ventured to propose the Alga represented in the plate as a distinct species; yet the horizontal and opposite ramuli seem to indicate a specific difference. The fact also of the ramuli not being distichous, but spreading in every direction, also deserves consideration.

Fig. 1. *S. cirrhosa, var.* ε, natural size. Fig. 2. *A single plant separated from the tuft.* Fig. 3. *The termination of a branch;* magnified. Fig. 4. *A portion of a branch with ramuli.*



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CERAMIUM PATENS.

Spreading pinnated Ceramium.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss.*

GENERIC CHARACTER.

Fila articulata, rosea vel purpurea, tubo simplici, capsulæ globosæ, sporidia numerosa conglomerata includentes.—AGARDH.

Filaments jointed, fine red or purple colour, composed of a single tube: capsules globose, containing a cluster of numerous sporidia.

SPECIFIC CHARACTER.

CERAMIUM patens; *filis laxe ramosis, ramis breviter pinnatis; pinnis alternis horizontalibus, in ramulis patentissimis dichotome divisis.*

C. filaments loosely branched, the branches shortly pinnated: pinnæ alternate, horizontal, dichotomously divided into very spreading ramuli.

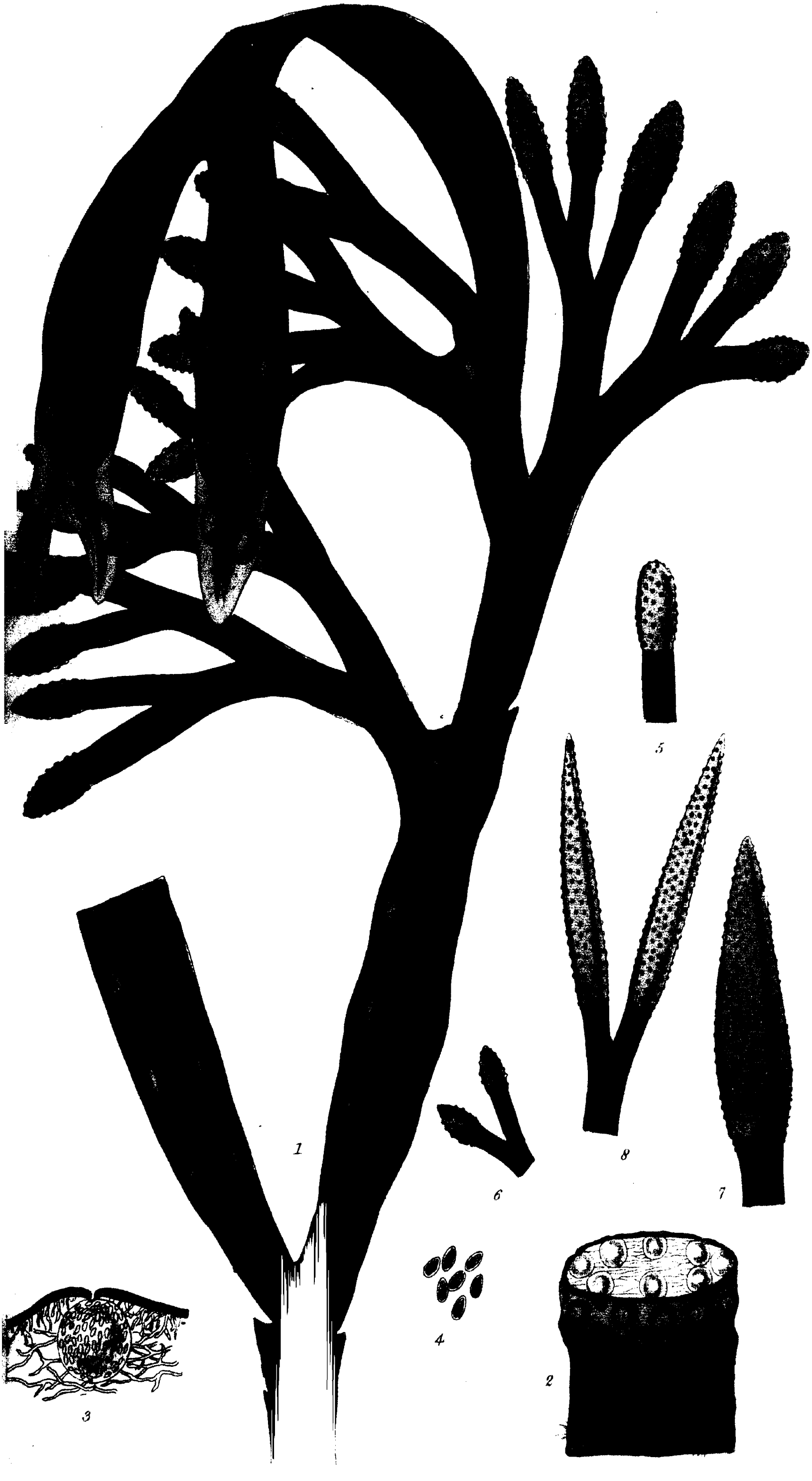
HAB. In the sea. Rejectamenta in Etterick Bay, Island of Bute, May.

Frond two or three inches in length, slender, delicate, rose-coloured, sending off a few alternate lax branches. *Stem* and *branches* set with alternate horizontal *pinnæ*, pretty closely arranged (a pinna being produced from every third articulation), and not two lines in length. These pinnæ are several times divided in a dichotomous manner, two articulations generally occurring between the divisions, all of which form nearly right angles, and thus crossing one another, give a reticulated appearance to the pinnæ.

Of this beautiful and singular plant, I regret to say, I found only one specimen, and that not in fructification. It is, however, so strikingly characterized by its habit, and the peculiar division of the frond, that, even in its present state, it admits of a very satisfactory definition.

It belongs to the fourth tribe *Rosei* of AGARDH's division of the genus *Ceramium.*

Fig. 1. *C, patens,* natural size. Fig. 2. *Portion of stem and pinnæ.* Fig. 3. *Ditto, with a pinna.* Fig. 4. *Portion of the lower part of the stem;* magnified.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FUCUS VESICULOSUS, var. LATERIFRUCTUS.

Bladder Fucus,—lateral-fruited variety.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss.*

GENERIC CHARACTER.

Receptacula tuberculata; tuberculis pertusis, includentibus glomerulos fibrarum capsulorumque massæ mucosæ fibrosæ immersos.—AG. *Radix scutata. Frons filiformis aut plana. Color olivacea.*

Receptacles tuberculated; tubercles with a pore, containing clusters of fibres and capsules immersed in a mucose-fibrous mass.—Root scutate. Frond filiform or plane. Colour olivaceous.

SPECIFIC CHARACTER.

FUCUS vesiculosus; *fronde plana, costata, lineari, dichotoma, integerrima, vesiculis sphæricis frondi innatis geminis, receptaculis terminalibus ellipticis.*—AG.

F. frond plane, ribbed, linear, dichotomous, entire, with innate spherical vesicles in pairs; receptacles terminal, elliptical.

FUCUS vesiculosus, *Linn. Sp. Pl.* p. 1626.—*Smith, Eng. Bot.* t. 1066.—*Turn. Hist. Fuc.* t. 88.—*Ag. Syst. Alg.* p. 175. &c. &c.

var. *laterifructus, fronde segmentis lateralibus angustioribus multifidis fructiferis.*

var. frond with the fructification produced on narrower, multifid, lateral segments.

HAB. In the sea. The present variety occurs in the Island of Bute in the greatest abundance. Spring and summer.

DESCRIPTON of var. *laterifructus.*—*Root* an expanded callous disk. *Frond* one to four feet in length, coriaceous, flat, linear, dichotomous, from four lines to an inch in breadth, furnished at irregular intervals with immersed spherical or oval *vesicles*, in pairs, three or four pairs being generally placed consecutively. The angles of the dichotomies are acute, except when a solitary vesicle, as is sometimes the case, is placed in the angle, and renders it obtuse. The margin of the frond is entire, the ramifications more numerous towards the extremity, the apex of each division rounded. The *fructification* is produced on lateral segments, which are narrower than the rest of the frond, several times dichotomous, and terminated with the receptacles. *Receptacles* varying from roundish to linear-lanceolate, studded with tubercular pores; within filled with a mass of pellucid mucus, and a network of filaments, in which the globular tubercles are immersed. *Seeds* yellowish, elliptical, surrounded with a pellucid limb.

I believe no botanist who has been accustomed to see *Fucus ceranoides*, and *F. vesiculosus* in a growing state, will ever consider them as the same species. The total want of vesicles in the former, its different substance, and permanently distinct habit, seem to be completely satisfactory. Those persons, too, who are in the habit of preserving both species, are fully aware that *F. ceranoides* becomes perfectly dry under pressure, in one-third of the time that is required to deprive *F. vesiculosus* of its moisture. The *alga* now illustrated, however we may be satisfied of the difference between the two species above mentioned, is likely to puzzle the best naturalists, being in some respects intermediate. In habit, thick coriaceous substance, colour, vesicles, and large size, it agrees with *Fucus vesiculosus*, but in the fructification it comes nearer to *F. ceranoides*. In *F. vesiculosus*, the receptacles are situated at the ends of the branches, singly or in pairs; and there is no decided difference between the fertile and sterile branches. In *F. ceranoides*, the receptacles are on the extremity of short, *lateral*, repeatedly divided branches, each of these lateral branches thus forming a sort of *cyme;* and it is worthy of notice, that they are spreading, while the main terminal ones spring at a more acute angle. In the plant now represented, the fructification is also upon lateral branches, narrower than the main frond, and equally forming a cyme, which, towards the lower part of the frond, is sometimes of such a size as to produce fifty or sixty receptacles; but it is very remarkable, that the lateral branches *here*, are given off at an acute angle, like all those in the true *F. vesiculosus*, unless when an axillary vesicle causes them to spread. The frond is dotted with the same kind of minute pores which produce tufts of white filaments in *F. ceranoides* and *vesiculosus*.

This plant is so abundant in Bute, as in some places to exclude almost every other.

Fig. 1. *Summit of a main branch of F. vesiculosus,* var. *laterifructus,* natural size. Fig. 2. *Section of a receptacle.* Fig. 3. *Small portion of a receptacle, with a capsule and external pore.* Fig. 4. *Seeds;* magnified. Figs. 5,–8. *Receptacles of different forms,* natural size.

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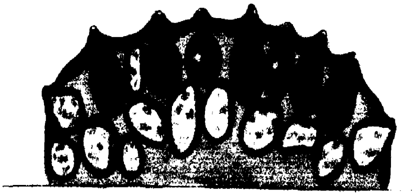

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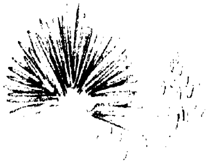

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STROMATOSPHÆRIA FLAVO-VIRENS.

Black and Green Sphæria.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *HYPOXYLA*, *De Cand.*

GENERIC CHARACTER.

Receptaculum varium, sessile, liberum vel erumpens. Perithecia omnino latentia vel ore exserto; intus massa gelatinosa sporidifera instructa.

Receptacle various, sessile, free or bursting through the bark. Perithecia concealed, or furnished with a prominent orifice; filled with a gelatinous sporidiferous mass.

SPECIFIC CHARACTER.

STROMATOSPHÆRIA flavo-virens; *inæqualis, rugosa, nigra, intus pulverulenta, flavo-virens, peritheciis subglobosis, ostiolis prominulis rotundatis.*

ST. unequal, rugose, black, pulverulent and yellowish-green within; perithecia subglobose, their orifices somewhat prominent and rounded.

STROMATOSPHÆRIA multiceps, *Grev. Fl. Edin.* p. 356.

SPHÆRIA flavo-virens, *Pers. Syn. Fung.* p. 22.—*Alb. et Schwein.* p. 10.—*De Cand. Fl. Franç.* v. 6. p. 121.—*Fries, Scler. Suec. Exsicc.* No. 222.—*Schmidt et Kunze, Exsicc.* No. 201.—*Moug. et Nestl. St. Cr. Exsicc.* No. 375.—*Fries, Syst. Myc.* v. 2. p. 357.

SPHÆRIA flavo-virescens, *Hoffm. Veg. Cr.* 1. p. 10. t. 2. f. 4.

SPHÆRIA multiceps, *Sow. Fung.* t. 394. f. 8.—*Fries, Scler. Suec.* No. 45.—*Purt. Midl. Fl.* v. 2. p. 714.

HAB. On dead branches of trees, frequent in Scotland and England.

A very variable plant in external appearance, sometimes two or three lines in breadth, distinct, and roundish, or at other times as if a number of small masses had become confluent, and produced an irregular rugose surface of an inch or more in extent, rough with the somewhat prominent orifices of the perithecia. Sometimes, again, the whole is either seated on the outside of the bark, or bursting through it; or, when the bark is previously removed, it sometimes happens that the plant is partly innate, or immersed in the substance of the wood itself, and in such cases has a more even external surface, and is less conspicuously dotted with the perithecial orifices. The colour is more or less black without, but within it is yellow-green, and the substance is pulverulent. *Perithecia* ovate or roundish, black, with a somewhat exserted, rounded orifice.

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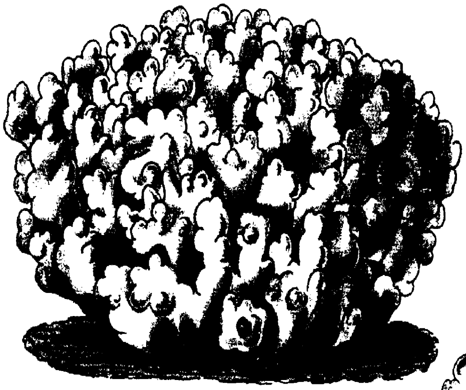
So many appearances are assumed by this *Sphæria,* that it requires long practice to determine it without examining the interior; the yellow-green colour of the pulverulent stroma is always conspicuous, and is sufficient to decide the species.

Fig. 1. *St. flavo-virens,* natural size. Fig. 2. *Small plant.* Fig. 3. *Section of ditto.* Fig. 4. *Asci and sporidia;* magnified.



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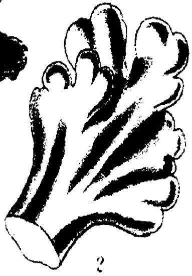

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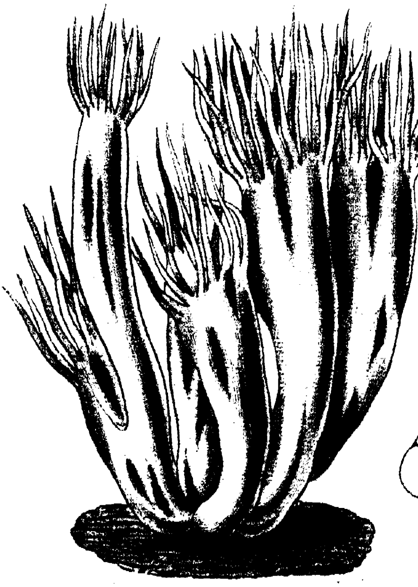

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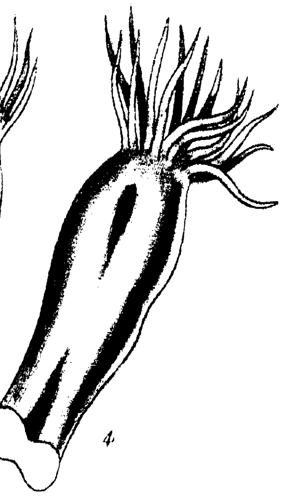

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CLAVARIA CINEREA,—VARIETATES.

Grey Clavaria,—varieties.

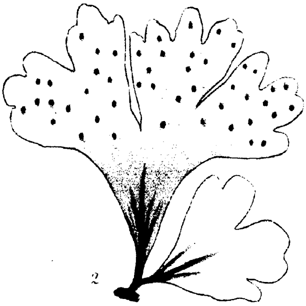
Vide Pl. 64. for Characters and Synonyms.

Among a number of drawings which I have made of varieties of this species, the two now represented in the Plate are the most curious. They are, perhaps, strictly speaking, rather *states* of the plant than varieties; and seem to be produced pretty uniformly under particular circumstances of situation or injury.

The first variety is marked by a number of short stems and branches, bearing numerous little knobs or processes, and crowded into a dense rounded mass.

The second variety is distinguished by the stems being short, greatly enlarged, and terminated by a fringe of subulate processes.

Fig. 1. *Cl. cinerea, var.* 1. natural size. Fig. 2. *Portion of a branch* magnified. Fig. 3. *var.* 2. Fig. 4. *Stem divided;* natural size.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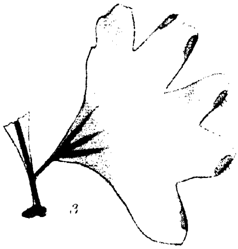
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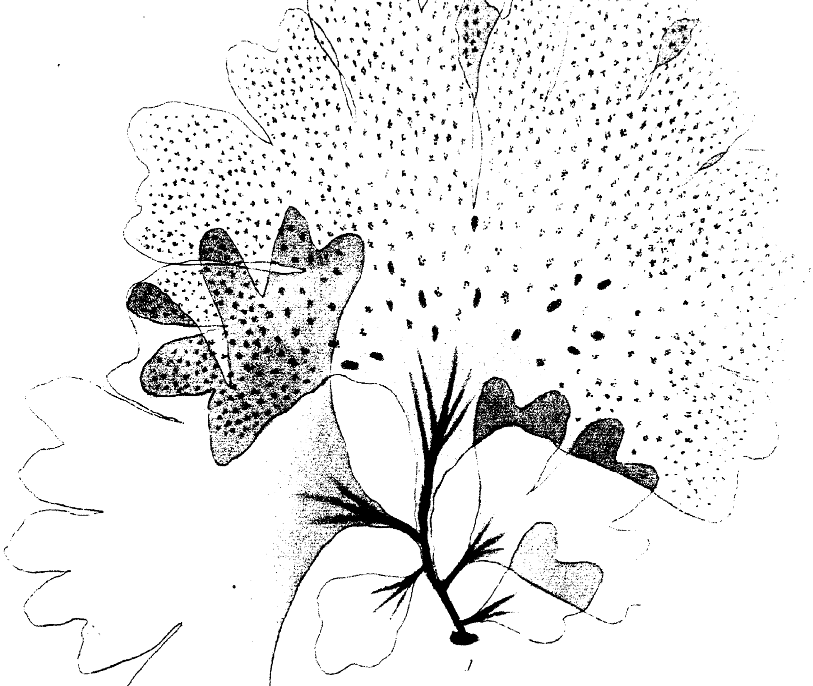
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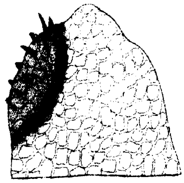
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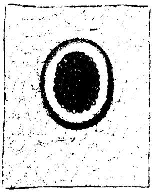
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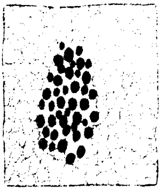
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5

DELESSERIA BONNEMAISONI.

Bonnemaison's Delesseria.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss.*

GENERIC CHARACTER.

Frons membranacea, stipitata vel acaulis, foliacea vel laminosa, rarissime filiformis. Fructus duplex: capsulæ et sori sporidiis ternis.—AG.

Frond membranaceous, stipitate or sessile, simply expanded or foliaceous, very rarely filiform. Fructification double: capsules and clusters of ternate sporidia.

SPECIFIC CHARACTER.

DELESSERIA Bonnemaisoni; *fronde tenuissima, vage fissa, segmentis cuneato-subrotundis, soris aut capsulis in disco sparsis; brevissime stipitata, stipite in basi frondis evanescenti.*

D. frond very thin, irregularly cleft, the segments roundish wedge-shaped, sori or capsules scattered in the disk of the frond, which is very shortly stipitate, the stem vanishing soon after entering the frond.

DELESSERIA Bonnemaisoni, *Ag. Sp. Alg.* p. 186.—*Syst. Alg.* p. 252.

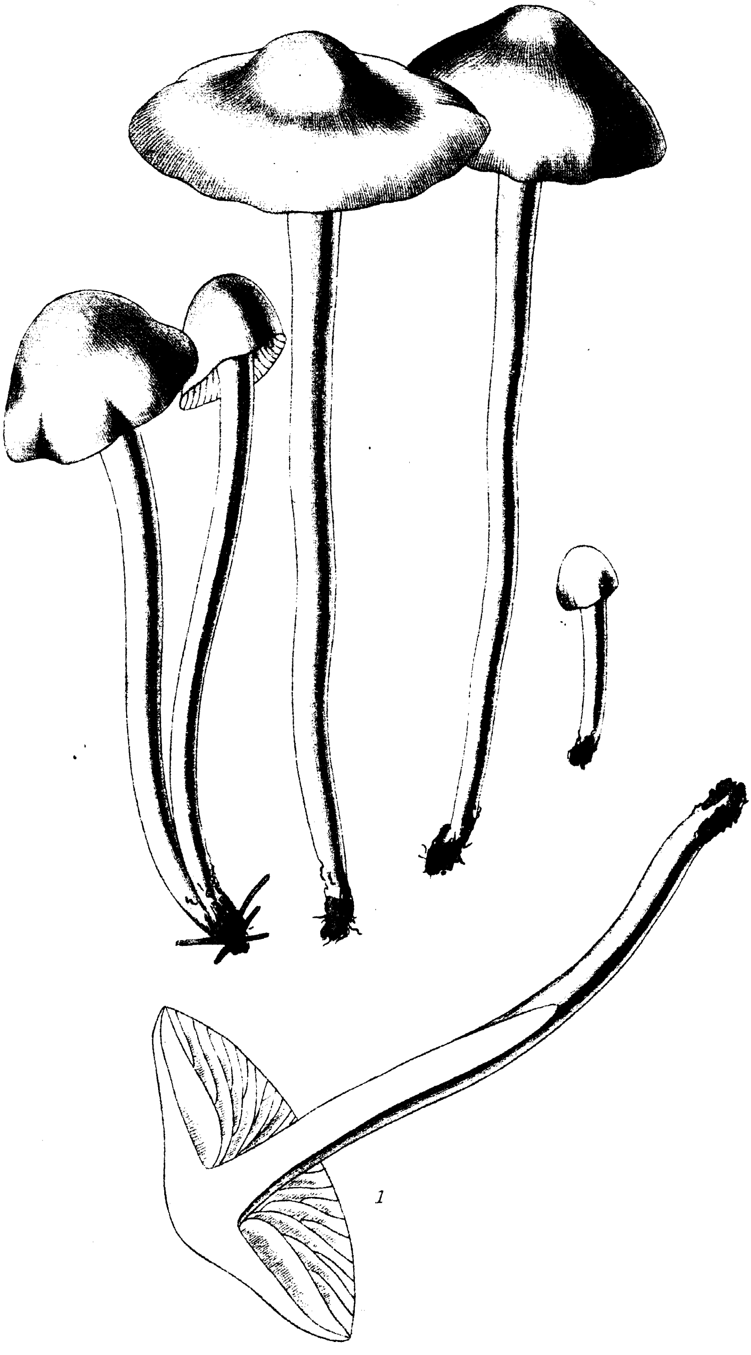
HAB. In the sea. Summer. Orkney, Mr CHARLES CLOUSTON. Island of Bute. It has been found in England, by Mrs GRIFFITHS, at Tor-Abbey rocks, and Budleigh, in the county of Devon; and by Miss HILL at Ilfracombe, in the same county. Fine specimens have also been communicated to me from Larne in Ireland, by Dr DRUMMOND of Belfast.

Root a small red, flat, callous disk. *Stem* from a line to half an inch in length, as thick as a hog's bristle, or sometimes a sparrow's quill, red, cartilaginous, dividing into a few obscure veins immediately after entering the frond, and then vanishing. *Frond* roundish or roundish-wedge-shaped in its general outline, very thin and delicate, irregularly cleft into roundish wedge-shaped segments. *Fructification* scattered over the disk of the frond. The *Capsules* are of small size; the *clusters of sporidia* numerous, small. *Substance* finely reticulated. *Colour* rose-red, changing to fine orange in fresh-water.

Very great uncertainty seems to exist in regard to the real nature and characters of the group of *Delesseriæ* to which the subject of the present description belongs. It contains, according to AGARDH, only the species *venosa, lacerata, Bonnemaisoni, punctata* and *ocellata*. But then the *Fucus ulvoides* of TURNER, which nobody seems to understand, must be referred to it also, if it prove really distinct from *D. ocellata*. Another plant, again, belongs to this group, which is probably different from TURNER's *F. ulvoides*. I mean an *Alga* found at Plymouth by Miss HILL, and noticed by Mr TURNER in his observations upon the last-named plant, of a thicker substance, and abundantly furnished with very minute sori. Of this species, however, I have not seen entire specimens. The only plant in the group with which the *D. Bonnemaisoni* immediately comes in contact, is *D. lacerata*, as they are both nerved or veined towards the base of the frond; at least this character is but rarely absent, though it varies greatly in degree. Both species are apt to be inconstant in their form; but that of *lacerata* is more or less linear; while in *Bonnemaisoni* it is at first more or less wedge-shaped, the summit afterwards frequently expanding and widening, till the general outline is often roundish or reniform. The best specific distinction, however, is obtained from the fructification, which is marginal in *D. lacerata*.

A curious appearance of what might be called pseudo-fructification, has been detected upon *D. Bonnemaisoni*, by the acute observation of Miss HILL, and is represented at figs. 3. and 8. I can only conjecture it to be a morbid enlargement of the part from some unknown cause. The first discovery of this species as a native of Britain, is undoubtedly due to my celebrated friend Mrs GRIFFITHS, and to the lady above mentioned.

Fig. 1. *D. Bonnemaisoni, with sori.* Fig. 2. *Ditto, with capsules.* Fig. 3. *Ditto, with the appearance observed by Miss Hill;* natural size. Fig. 4. *One of the sori.* Fig. 5. *Sporidia from ditto.* Fig. 6. *A capsule.* Fig. 7. *Seeds from ditto.* Fig. 8. *Appearance observed by Miss Hill.* Fig. 9. *Granules emitted by ditto when divided, from the morbidly enlarged and incrassated cellular structure:*—magnified.



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AGARICUS OREADES.

Small Fairy-ring Agaric.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *FUNGI, Link.* SERIES I. LEUCOSPORUS.—TRIB. VIII. CLITOCYBE, *Fries.*

GENERIC CHARACTER.

Pileus stipitatus aut latere affixus, subtus lamellis sporidiferis rectis simplicibus. Volva nulla.

Pileus furnished with a stipes or fixed by its side, having on the under surface, straight, simple, sporidiferous lamellæ. Volva none.

SPECIFIC CHARACTER.

AGARICUS oreades; *pileo carnoso, tenaci, subumbonato, e rufo pallescente, lamellis distantibus, stipitique solido tereti deorsum attenuato, villoso-corticato pallidis.*

AG. pileus fleshy, tough, subumbonate, reddish, becoming pale, lamellæ distant, pale, as well as the solid, cylindrical stipes, which is also attenuated downwards, and furnished with a kind of fibrous bark.

AGARICUS oreades, *Bolt. Fung.* t. 151.—*With. Bot. Arr.* v. 4. p. 275.—*Relh. Fl. Cantab.* p. 529.—*Hook. Fl. Scot.* Pt. 2. p. 21.—*Purt. Midl. Fl.* v. 2. p. 637.— *Fries, Syst. Myc.* v. 1. p. 127.—*Grev. Fl. Edin.* p. 379.

AGARICUS corticatus, *Fries, Obs. Myc.* 1. p. 22.

AGARICUS collinus, *Pers. Syn. Fung.* p. 330. *excl. syn.*—*Albert. et Schwein.* p. 172.—*Schwein. Fung. Carol.* No. 632.

AGARICUS peronatus, var. 2. *With. Bot. Arr.* v. 4. p. 266.

AGARICUS tortilis, *De Cand. Fl. Franç.* v. 2. p. 194.—*Ejusd. Syn.* p. 40.

AGARICUS pseudo-mousseron, *Bull. Champ.* t. 144. et 528. f. 2.

AGARICUS caryophylleus, *Schœff. Fung.* t. 77.

AGARICUS pratensis, *Huds. Fl. Angl.* p. 616.—*Sow. Fung.* t. 247.

AGARICUS coriaceous, *Lightf. Fl. Scot.* p. 1020.

HAB. Pastures, frequent. May to November.

Root little more than a minute tomentosity. *Stipes* firm, solid, brittle in very young plants, tough in old ones, furnished with a kind of fibrous bark, tearing and twisting longitudinally, about as thick as a goose-quill, flexuose or crooked, of a pale whitish brown, somewhat farinose towards the top, from whence it is gradually attenuated downwards. In *height*, it is much influenced by situation, varying from two to five inches. *Pileus* 1–2 inches or more in breadth, hemispherical in the young state, then obtusely conical, finally plano-convex, and most frequently umbonate, smooth, the margin often more or less waved, and

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turning up with age. The substance is leathery, the *flesh* white, small in quantity. *Colour* a reddish opake cream colour in dry weather; but in a moist state, a watery brown, darker in the centre, and somewhat striate at the margin. *Lamellæ* distant, mostly four in a series, rather thick and fleshy, free, yellowish-white, frequently with a tinge of pink, generally lying obliquely over one another. *Sporidia* white.

On the Continent, this species has long been considered edible, but, on account of its coriaceous texture, it is dried, and employed, in the form of powder, to season various made-dishes. The taste and smell in the recent state are rather insipid, but not ungrateful.

Fairy-rings are often observed to be formed by this plant. In regard to these curious phenomena, it is worthy of remark, that never more than one species is detected in the same ring; an additional fact, tending to prove (were the subject not already decided), that fairy-rings owe their existence to Agarics.

Fig. 1. *A section of Ag. oreades,* natural size.

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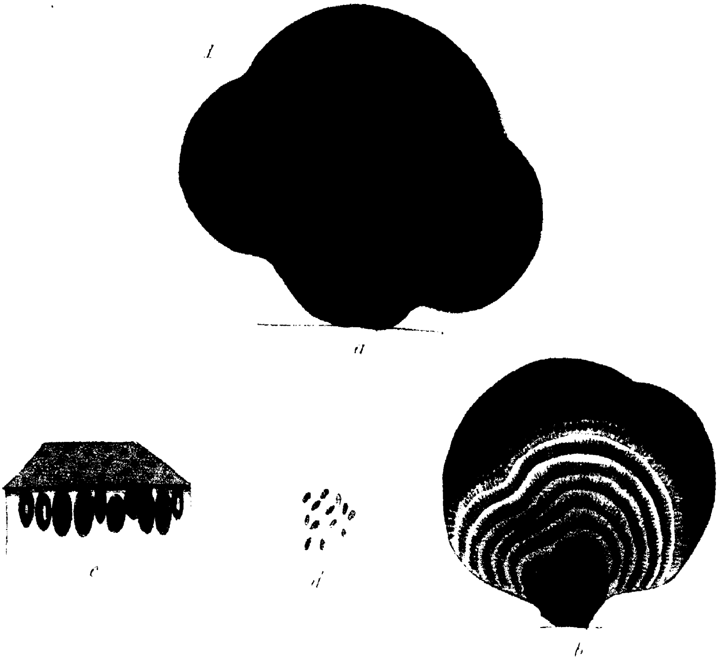

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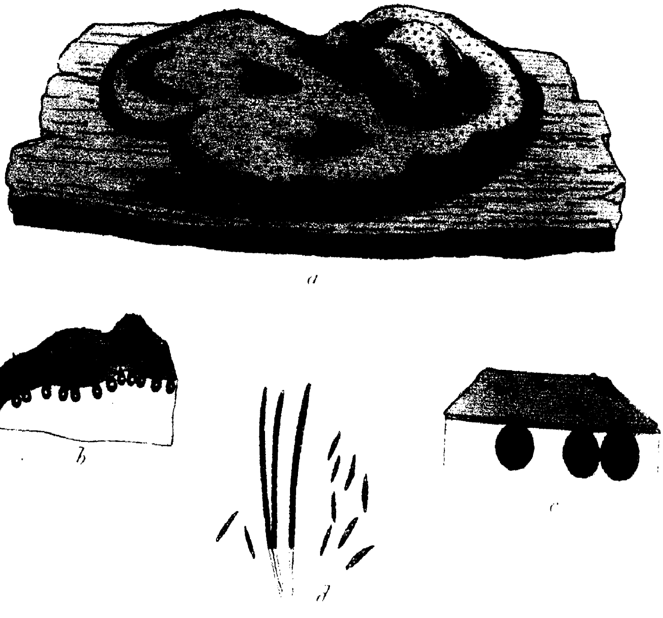

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HYPOXYLON CONCENTRICUM.

Large concentric Hypoxylon.

Class and Order CRYPTOGAMIA FUNGI, *Linn.*—Nat. Ord. *HYPOXYLA*, *De Cand.*

GENERIC CHARACTER.

Perithecia subcornea. Asci clavati. Sporidia septata, opaca, pulveris instar atri expulsa.—Rigidæ, nigrescentes, adnato-superficiales, velo pulverulento fugaci.—Fries.

Perithecia subcorneous. Asci clavate. Sporidia septate, opake, at length escaping like a black powder.—Rigid, becoming black, adnate or superficial, with a pulverulent fugacious covering.

SPECIFIC CHARACTER.

Hypoxylon concentricum; *globoso-difforme, fusco-nigricans, intus stratis concentricis zonatum, peritheciis oblongis periphericis immersis.*—Ag.

H. unequally globose, brownish-black, zoned within with concentric layers; perithecia oblong, immersed in the circumference.

Sphæria concentrica, *Bolt. Fung.* t. 180.—*Pers. Syn. Fung.* p. 8. t. 1. f. 3,–4. *Ejusd. Comm. Clav.* p. 18.—*Alb. et Schwein.* p. 3.—*De Cand. Fl. Franç.* v. 2. p. 284.—*Ejusd. Syn.* p. 59.—*Schum. Fl. Sæll.* v. 2. p. 177.—*Fries, Sclerom. Suec.* No. 141.—*Wahl. Fl. Lapp.* p. 1003.—*Hook. Fl. Scot.* Pt. 2. p. 4.—*Schwein. Fung. Carol.* No. 12.—*Nees, Syst.* t. 40. f. 308.—*Fries, Syst. Myc.* v. 2. p. 331.

Sphæria fraxinea, *Sibth. Fl. Oxon.* p. 401.—*Sow. Fung.* t. 160.—*With. Bot. Arr.* v. 4. p. 467.—*Relh. Fl. Cant.* p. 569.—*Purt. Midl. Fl.* v. 2. p. 708.

Sphæria tunicata, *Tode. Fung.* 2. p. 59. t. 17. f. 130.

Sphæria Eschscholzii, *Ehrenb. Hor. Berol.* t. 18. f. 8. *fide Fries.*

Lycoperdon fraxineum, *Huds. Fl. Angl.* p. 641.

Lycoperdon atrum, *Schæff. Fung.* t. 329.

Valsa tuberosa, *Scop. Fl. Carn.* p. 399.

Fungus fraxineus niger durus orbiculatus, *Ray, Syn.* p. 16.

Hab. On the trunks of various trees, the whole year, not unfrequent.

Plant 1–2 inches in diameter, unequally globose, sessile or somewhat stipitate; in the young state reddish-brown and pruinose, afterwards subrugose, brownish-black; the exterior hard and brittle, deciduous, minutely dotted with the orifices of the perithecia; the interior brown, somewhat spongy, fibrous, shining, and distinctly composed of concentric strata. *Perithecia* oblong, with a plane orifice. *Sporidia* opake, elliptical.

A large and not rare species, too well marked to require further illustration. The old genus *Hypoxylon* now restored by Fries, I have here adopted, and shall explain more particularly hereafter.

Fig. 1. a, *H. concentricum.* b, *A section,* natural size. c, *Portion of the stroma, with perithecia.* d, *Sporidia;* magnified.

HYPOXYLON DEUSTUM.

Large spreading Hypoxylon.

SPECIFIC CHARACTER.

HYPOXYLON deustum; *effusum, crassum, undulato-rugosum, junior cinereo-albidum, pulverulentum, dein rigidum, fusco-nigrum, peritheciis ovatis immersis.*

H. effused, thick, uneven and rugose; when young greyish-white and pulverulent, at length rigid, brown-black, the perithecia ovate, immersed.

HYPOXYLON ustulatum, *Bull.* p. 176. t. 487. f. 1.

SPHÆRIA deustum, *Hoffm. Veg. Crypt.* 1. p. 3. t. 1. f. 2.—*Pers. Obs. Myc.* p. 19.—*Syn. Fung.* p. 16.—*Alb. et Schwein.* p. 6.—*Schum, Fl. Sæll.* v. 2. p. 163.—*DeCand. Fl. Franç.* v. 2. p. 285.—*Nees, Syst.* t. 41. f. 316.—*Schwein. Fung. Carol.* No. 27.—*Hook. Fl. Scot.* Pt. 2. p. 5.—*Moug. et Nestl. Stirp. Exsicc.* No. 276.—*Fries, Scler. Suec.* No. 261.—*Ejusd. Syst. Mycol.* v. 2. p. 345.

SPHÆRIA albo-deusta, *Wahl. Fl. Lapp.* ed. 2. p. 1001.

SPHÆRIA maxima, *Web. Spicill. Fl. Goett.* p. 286.—*Bolt. Fung.* t. 181.—*Sow. Fung.* t. 338.—*With. Bot. Arr.* v. 4. p. 467.—*Relh. Fl. Cantab.* p. 570.

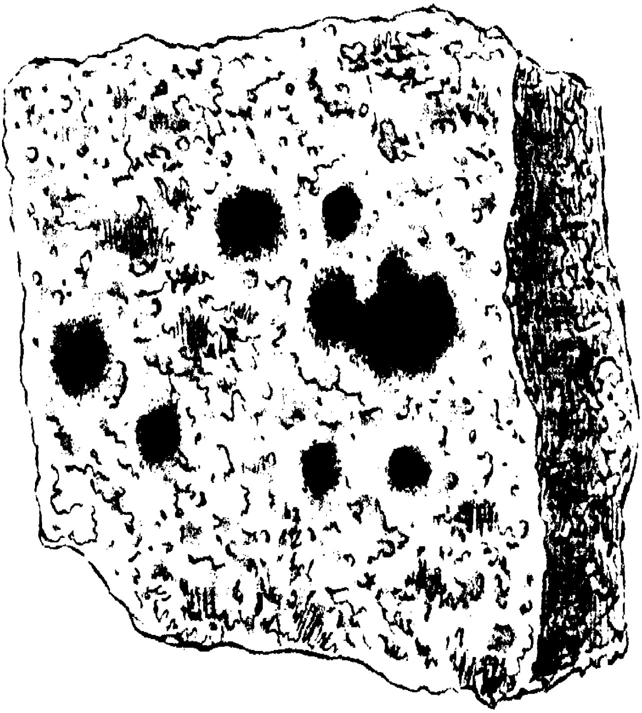
SPHÆRIA versipellis, *Tode, Fung.* 2. p. 55. t. 17. f. 129.

HAB. On the stumps and trunks of trees, generally near to the ground, spring to autumn, frequent.

Plant from 1 to 6 inches in breadth, two to many lines in thickness, very irregular in shape, effused, undulated and rugose. When young whitish or greyish, and coriaceous, the surface pulverulent: afterwards brownish or blackish, dotted with the little prominent orifices of the perithecia, very brittle, dry and hard, with the appearance of having been scorched. *Interior* white, especially towards the surface. *Perithecia* ovate. *Asci* linear-clavate. *Sporidia* shortly fusiform, opake, with two or three divisions.

A large species, creeping in its early and yielding state over the sticks and moss lying in its way, and afterwards hardening into a dry and most irregular mass. In America, it grows to a large size, according to SCHWEINITZ.

Fig. 2. a, *H. deustum.* b, *A section of ditto,* natural size. c, *Portion of the stroma, with perithecia.* d, *Asci and sporidia ;* magnified.



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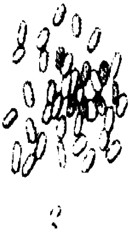

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CHLOROCOCCUM MURORUM.

Wall Chlorococcum.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss.*

GENERIC CHARACTER.

Granula omnino libera, minima, aggregata, absque gelatina.

Granules quite free, minute, aggregate, unaccompanied by a gelatine.

SPECIFIC CHARACTER.

CHLOROCOCCUM Murorum; *Granulis viridis, simplicibus, minutissimis, ovali-oblongis.*

C. granules green, simple, very minute, oval-oblong.

PROTOCOCCUS viridis, *Ag. Syst. Alg.* p. 13.

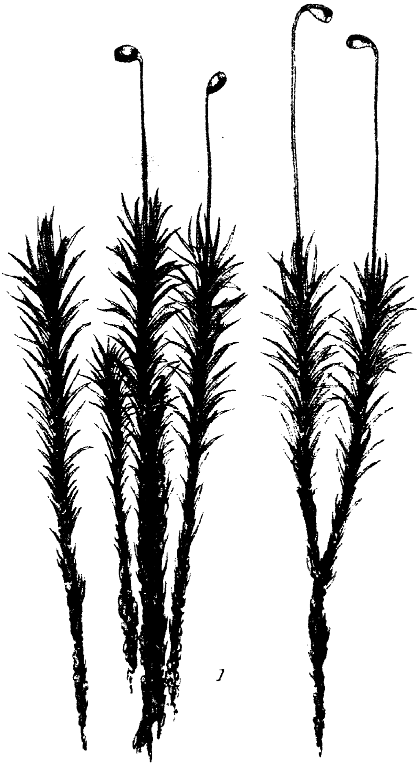
HAB. On walls and stones, frequent.

Plant producing spots on walls and stones, of a yellowish-green colour, and at first very small, but afterwards indefinitely larger, from a number becoming confluent. *Granules* exceedingly minute and numerous, varying in form from nearly globose to oblong, pellucid, green, totally unmixed with any gelatinous matter.

This minute species was first discovered in this country by the Rev. J. M. BERKELEY, on the freestone walls of Christ College, Cambridge. It is, however, one of those plants, which, after having been once detected by an acute observer, is found to be very common. It may be easily passed over for the crust of a lichen in a young state; and I would not take upon me to say that such is not actually the fact. A specimen I communicated to my friend Professor AGARDH, has been by him identified with his *Protococcus viridis*. In my observations upon the *Red Snow* (t. 231.), I have limited the genus *Protococcus* to the alga colouring the snow, and therefore place the present plant in the genus *Chlorococcum*, defined at t. 262. Such, however, being the generic name, I have been obliged to change the specific one of *viridis* which had been bestowed by

AGARDH, for one more appropriate, and of a different signification.

Fig. 1. *C. Murorum,* natural size. Fig. 2. *Granules,* magnified.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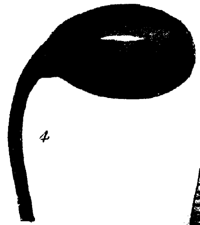
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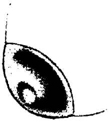
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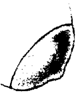
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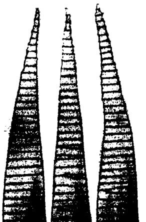
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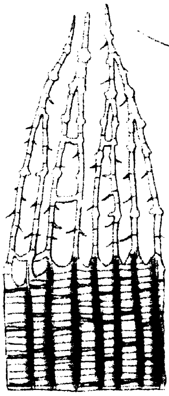
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TIMMIA MEGAPOLITANA.

Common Timmia.

CLASS AND ORDER CRYPTOGAMIA MUSCI, *Linn.*—NAT. ORD. *MUSCI*, *Juss.*

GENERIC CHARACTER.

Seta terminalis. Peristomium duplex: ext. *e dentibus* 16; int. *membrana in laciniis 32 æqualibus anastomosantibus (apicibus 2 vel 4 connexis) fissa. Calyptra dimidiata.*

Fruitstalk terminal. Peristome double: the outer one of 16 teeth; the inner one of a membrane cleft into 32 equal anastomosing segments, connected at the apex by twos or fours. Calyptra dimidiate.

SPECIFIC CHARACTER.

TIMMIA megapolitana;..............................

TIMMIA megapolitana, *Hedw. Musc. Frond.* v. 1. t. 31.—*Ejusd. Sp. Musc.* p. 176.—*Schwaegr. Suppl.* 1. P. ii. p. 84.—*Roth. Fl. Germ.* v. 3. p. 254.—*Web. et Mohr, Taschb.* p. 254. t. 10. f. 5.—*De Cand. Fl. Franç.* v. 2. p. 497.—*Funck, Deutschl. Moose,* t. 28. No. 1.—*Hessler, de Timmia,* p. 16. f. 2.—*Schwaegr. in Frankl. Journ.* App. p. 756.—*Hook. et Tayl. Musc. Brit.* ed. 2da, p. 191. t. 6. (Suppl.)

TIMMIA bavarica, *Hessler, de Timmia,* p. 19. f. 3.

TIMMIA polytrichioides, *Brid. Musc. Rec.* v. 2. P. i. p. 7.—*Meth.* p. 122.—*Arn. Disp. Musc.* p. 48.

TIMMIA cucullata, *Mich. Fl. Am. Bor.* v. 2. p. 304.

TIMMIA austriaca, *Hedw. Sp. Musc.* p. 176. t. 42. f. 1,–7.—*Schwaegr. Suppl.* I. P. ii. p. 84.—*Brid. Musc. Rec.* v. 2. P. iii. p. 155.—*Meth.* p. 122.—*Web. et Mohr, Taschb.* p. 254. t. 10. f. 3.—*Wahl. Fl. Lapp.* p. 731.—*De Cand. Fl. Franç.* v. 2. p. 498.—*Ejusd. Syn.* p. 103.—*Sturm, Deutsch. Fl. Crypt.* Abth. ii. Heft. 9.—*Funck, Deutschl. Moose,* t. 28. No. 2.—*Hessler, de Timmia,* p. 21. f. 4.

MNIUM Timmia, *Hoffm. Fl. Germ.* v. 2. p. 53.

MNIUM megapolitanum, *Gmel. Syst.* v. 2. p. 1327.

ORTHOPYXIS megapolitanum, *Pal. Beauv. Prod.* p. 79.

BRYUM foliis lanceolatis, falcatis, &c. *Hall. Hist.* No. 1779.

HAB. On rocks on the banks of the Isla, above Airly Castle, about ten miles west of Forfar, very rare, and always barren, Mr DRUMMOND.

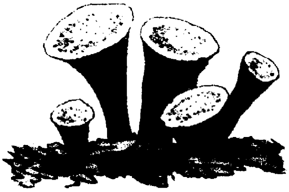
Stems numerous, forming dense tufts, 2–4 inches in height, erect, mostly simple, robust and somewhat rigid. *Leaves* brown below, where they are intermixed with the roots, green at the top: linear-lanceolate, spreading, often a little recurved, embracing the stem with their membranaceous base, serrated, and either nearly plane or somewhat inflexed at the margin, slightly carinate, and furnished with a strong nerve reaching to the very apex, which is itself tipped with two or three sertatures. They are more or less crisped when dry, and possess an opake dense structure. *Fruitstalk* terminal, 1–2 inches long, straight, robust. *Capsule* ovate or ovate-oblong, more or less cernuous, even, yellow, at length reddish-brown. *Lid* hemispherical, with its centre varying from depressed to slightly mamillate.

Mr Drummond, the first and only discoverer of this interesting moss in Great Britain, detected it in its barren state in the year 1824. The luxuriance of the specimens he had the kindness to communicate to me, afford every hope that fructification will still be found by some fortunate individual. I am nevertheless unwilling to postpone its introduction into the present work to a more distant period, and shall follow the example afforded me by the authors of the Muscologia Britannica, who have completed their illustration of it, with the assistance of foreign capsules.

The majority of the continental botanists sustain two species of *Timmia;* and one, M. Hessler, has added a third (*T. bavarica*). The distinctions between the whole are very trifling; and the last named species being intermediate between the other two, rather confirms the opinion that one only is at present known to exist. The character obtained from the operculum, we are told by Bridel (the boldest creator of species perhaps known), is not constant; and the leaves, I have ascertained, from numerous authentic specimens, not to retain their alleged specific proportional characters.

The inner peristome of this moss is very curious: at the base is a membrane nearly quite flat, which splits at the top into 32 segments, each of which is variously perforated, or even apparently formed of two ciliæ connected together by transverse bars, which has induced Mr Walker Arnott to consider the inner peristome as composed of 64 ciliæ. On the other hand, these 64 ciliæ or segments are so generally found cohering together at their summits into 16 divisions, that M. Hessler counts that number, and defines them to be quadripartite. I prefer, however, to enumerate 32, the farther division being too irregular to be well marked, as may be seen from Hedwig's figure of *T. megapolitana;* and because there is more uniformity and individuality between each of such ciliæ, than in any other combination.

Fig. 1. *T. megapolitana,* natural size. Fig. 2. *Leaf.* Fig. 3. *Young calyptra.* Fig. 4. *Capsule.* Fig. 5. *Lid of T. megapolitana of authors.* Fig. 6. *Lid of T. austriaca of authors.* Fig. 7. *Teeth of the outer peristome.* Fig. 8. *Portion of the inner peristome, with four segments.* Fig. 9. *Sporules;* magnified.



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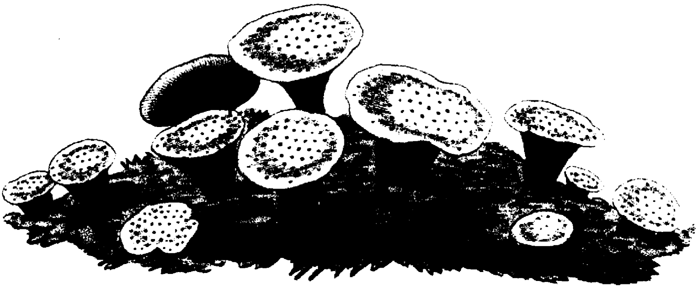

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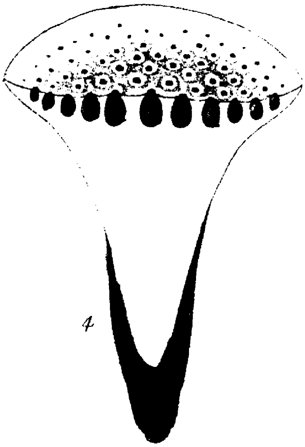

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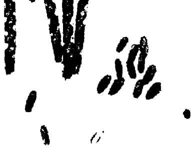

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HYPOXYLON PUNCTATUM.

Pale dotted Hypoxylon.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *HYPOXYLA*, *De Cand.*

GENERIC CHARACTER.

Perithecia subcornea. Asci clavati. Sporidia septata, opaca, pulveris instar atri expulsa.—Rigidæ, nigrescentes, adnato-superficiales, velo pulverulento fugaci.—FRIES.

Perithecia subcorneous. Asci clavate. Sporidia septate, opake, at length escaping like a black powder.—Rigid, becoming black, adnate and superficial, with a pulverulent fugacious covering.

SPECIFIC CHARACTER.

HYPOXYLON punctatum; *stipitatum, turbinatum, disco truncato, albo, nigro-punctato, extus nigrescens.*

H. stipitate, turbinate, the disk truncate, white with black dots, stipes and under surface blackish.

SPHÆRIA punctata, *Sow. Fung.* t. 54.—*De. Cand. Fl. Franç.* v. 2. p. 288.—*Ejusd. Syn.* p. 60.—*Fries, Syst. Mycol.* v. 2. p. 330.—*Wahl. Fl. Lapp.* ed. 2. p. 1001.

SPHÆRIA Poronia, *Pers. Syn. Fung.* p. 15.—*Alb. et Schwein.* p. 6.—*Nees, Syst.* t. 41. f. 313.—*Fries, Sclerom. Suec. Exs.* No. 182.—*Hook. Fl. Scot.* Pt. 2. p. 5.

SPHÆRIA truncata, *Bolt. Fung.* t. 127. f. 2.

PERONIA Gleditschia, *Willd. Fl. Berol.* p. 400.

PEZIZA punctata, *Linn. Sp. Pl.* 1652.—*Fl. Dan.* t. 288.—*Huds. Fl. Angl.* p. 639.—*Lightf. Fl. Scot.* p. 1050.—*With. Bot. Arr.* v. 4. p. 414.—*Bull. Champ.* p. 259. t. 252.—*Relh. Fl. Cant.* p. 554.

PEZIZA inferne nigra, superne alba, nigris maculis punctata, *Cels. Fl. Ups.* p. 35.

ELVELA turbinata, patula, disco foraminulis pertuso; basi brevissima, *Gled. Meth. Fung.* p. 44.

ELVELA petiolo brevissimo, pileolo turbinato, disco punctato, *Linn. Hort. Cliff.* p. 179.

FUNGUS minimus, infundibuliformis, superne nigris punctis notatus, *Ray.*

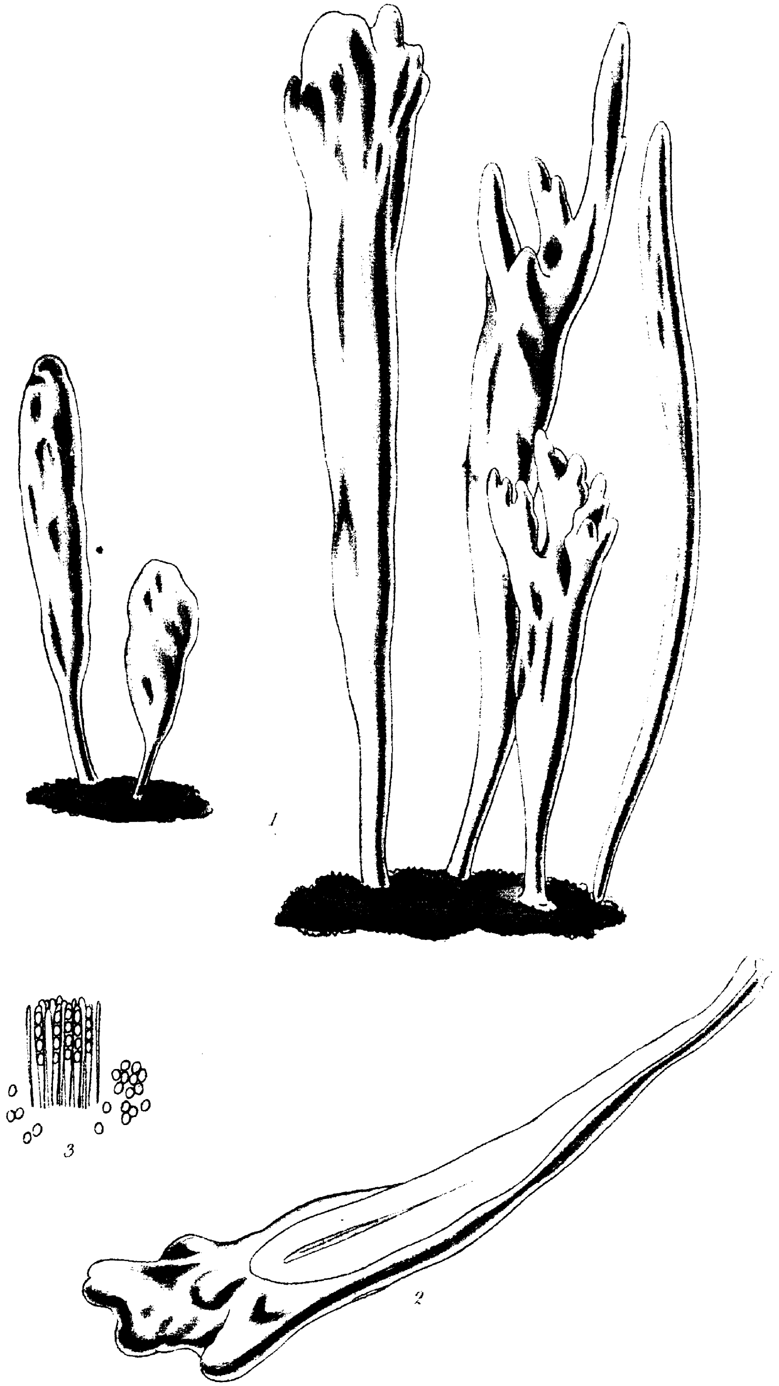
MUSCUS minimus, lignosus, disco punctato, *Bocc. Mus. Par.* 2. p. 149. t. 107.

HAB. On dung, old dunghils and hot-beds. The whole year. North of Scotland, W. C. TREVELYAN, Esq. LIGHTFOOT gives no particular station, but it is rare in Scotland. In some parts of England it is frequent.

Gregarious, stipitate, half an inch to one inch high, and two lines to three quarters of an inch broad, turbinate, the summit truncate, plane, or somewhat concave, white, and when young with a pulverulent and uniform surface, but when mature, smooth, and marked with black dots. The interior is also white, and of a spongy substance. The outer surface of the stipes up to the margin of the disk, blackish. *Perithecia* immersed in the substance of the disk, ovate, their black orifices somewhat prominent. *Asci* linear-clavate, containing eight oblong, opake *sporidia*, the whole escaping in the form of a black powder.

A very pretty and striking plant, long known to botanists. The form is altogether that of a *Peziza*, but its structure bespeaks it to belong unequivocally to the *Sphæria* tribe. If *plus ultra* had been the motto for the cryptogamic part of WITHERING's " Arrangement," we should hardly, in the last edition, have looked for this plant in the genus *Peziza*.

Fig. 1. *H. punctatum*, natural size. Fig. 2. *Ditto, mature.* Fig. 3. *A section*, natural size. Fig. 4. *A section.* Fig. 5. *Perithecium.* Fig. 6. *Asci and sporidia ;* magnified.



328

CLAVARIA RUGOSA.

White rugose Clavaria.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *FUNGI*, *Link.*

GENERIC CHARACTER.

Plantæ carnosæ, plus minusve cylindraceæ, simplices vel ramosæ. Hymenium læve, omnem fere superficiem occupans, cum stipite confluens. Sporidia albida vel ochracea.

Carnose plants, more or less cylindrical, simple or branched. Hymenium smooth, occupying almost the whole surface, and confluent with the stipes. Sporidia white or ochraceous.

SPECIFIC CHARACTER.

CLAVARIA rugosa; *simplex vel simpliciter ramosa, tenax, incrassata, rugosa, albida, ramis paucis difformibus obtusis.*

C. simple or simply branched, tenacious, incrassated, rugose, white, the branches (when present) few, irregular, obtuse.

CLAVARIA rugosa, *Bull. Champ.* p. 206. t. 448. f. 2.—*Pers. Comm.* p. 57. t. 2. f. 4.— *Syn. Fung.* p. 594.—*Mycol. Europ.* v. 1. p. 173.—*Alb. et Schwein.* p. 288.—*De Cand. Fl. Franç.* v. 2. p. 98.—*Ejusd. Syn.* p. 20.—*Fl. Dan.* t. 1301.—*Fries, Obs. Mycol.* 1. p. 158.—*Syst. Mycol.* v. 1. p. 473.—*Schwein. Fung. Carol.* No. 1088.—*Grev. Fl. Edin.* p. 413.

CLAVARIA coralloides, *Sow. Fung.* t. 278. *lower figures.*—*Purt. Midl. Fl.* v. 3. p. 269. var. 2.

CLAVARIA elegans, *Bolt. Fung.* t. 115.—*With. Bot. Arr.* v. 4. p. 436.

CLAVARIA Damæ cornis, *Schrank, Fl. Bav.* No. 1845. *fide Persoon.*

CLAVARIA cornu alces, *Batsch, Elench. Fung.* p. 135.

CLAVARIA laciniata, *Schæff. Fung.* t. 291.

HAB. Woods, and moist shady places; very frequent in autumn.

Solitary, or somewhat gregarious, one to four inches high, and two lines to above half an inch thick, incrassated upwards, rugose or furrowed, simple or divided at the summit into two or three short, irregular, obtuse branches; even when simple, the summit is frequently distorted with knobs and processes of various forms. *Substance* rather firm and tenacious, solid, sometimes with a slight cavity in old age. *Colour* white both within and without, rarely tinged with a grey or brownish hue. *Sporidia* white, ovate-globose.

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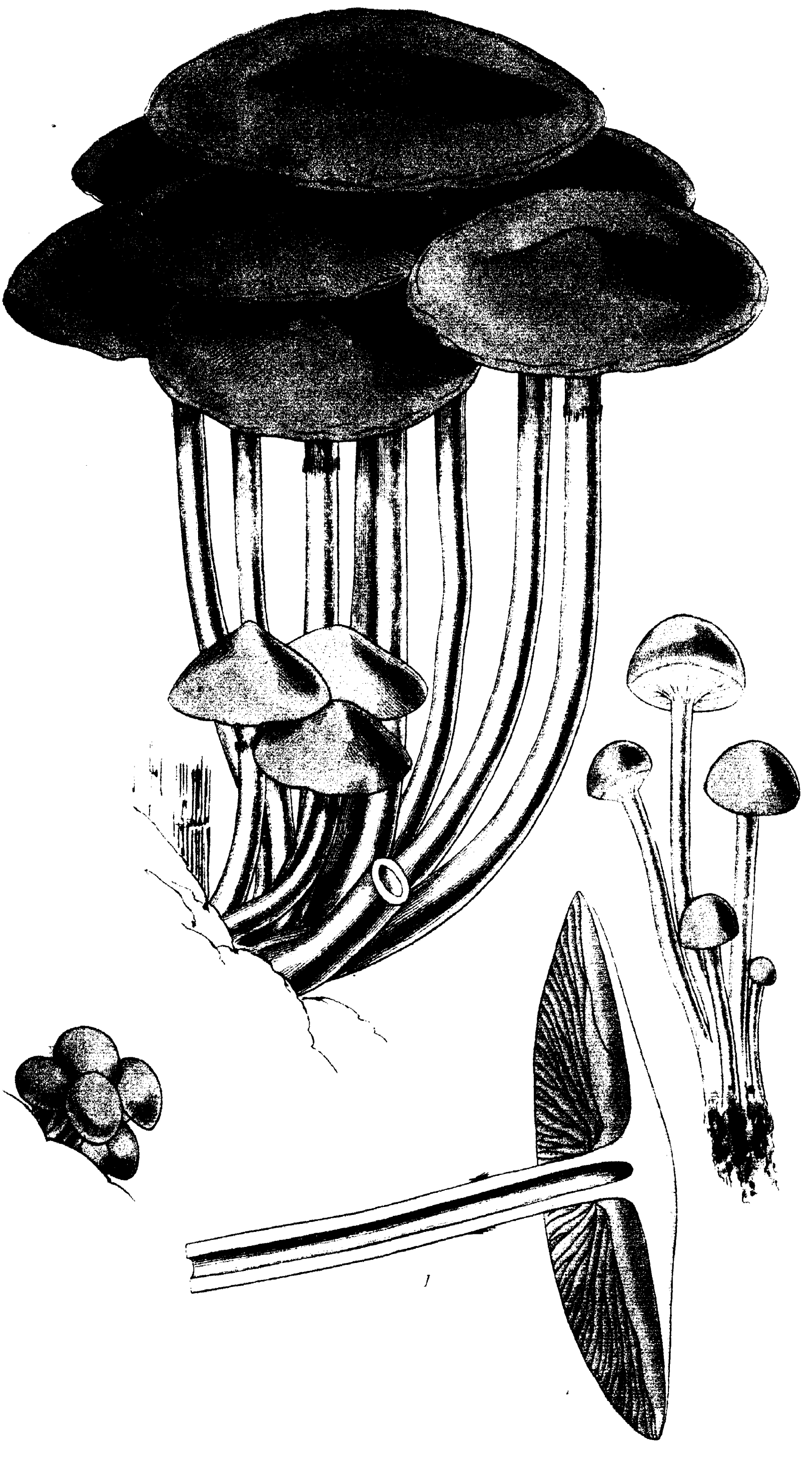
The two groups of simple and branched *Clavariæ* are brought together by this species. SOWERBY has confounded it with *C. coralloides*; but it is of a firmer consistence than that plant; and when the varieties of each happen to resemble one another in form, they may be at once distinguished by the even surface of the one and the wrinkled surface of the other.

Fig. 1. *Cl. rugosa*. Fig. 2. *Section of an old plant*, natural size. Fig. 3. *Asci and sporidia*, magnified.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AGARICUS FASCICULARIS.

Common tufted Agaric.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *FUNGI, Link.*

GENERIC CHARACTER.

Pileus stipitatus aut latere affixus, subtus lamellis rectis simplicibus sporidiferis. Volva nulla.

Pileus furnished with a stipes, or fixed by its side: bearing on the under surface, straight, simple, sporidiferous lamellæ. Volva none.

SPECIFIC CHARACTER.

AGARICUS fascicularis; *pileo subcarnoso, umbonato, ochraceo, lamellis adnatis virescentibus: stipite tenui, firmo, cavo, cortina nigrescente, evanescente.*

AG. pileus somewhat fleshy, umbonate, ochraceous, lamellæ adnate, becoming green, the stipes slender, firm, hollow, curtain at length black, vanishing.

AGARICUS fascicularis, *Huds. Fl. Angl.* p. 615.—*Bolt. Fung.* t 29.—*Sow. Fung.* t. 285.—*Pers. Comm.* p. 19.—*Syn. Fung.* p. 421.—*With. Bot. Arr.* v. 4. p. 327.—*Alb. et Schw.* p. 206.—*Relh. Fl. Cant.* p. 536.—*Schwein. Fung. Carol.* No. 725.—*Purt. Midl. Fl.* v. 2. p. 645.—*Fries, Syst. Myc.* v. 1. p. 288.—*Nees, Syst.* t. 24. f. 198.—*Grev. Fl. Edin.* p. 392.

AGARICUS pulverulentus, *Bull. Champ.* t. 178.—*De Cand. Fl. Franç.* v. 2. p. 155.—*Ejusd. Syn.* p. 31.

AGARICUS lucidus, *Otto, Ag.* p. 35. *fide Fries.*

AGARICUS lateritius, *Schæff. Fung.* t. 49. *excl.* fig. 6.

HAB. Plentiful at the roots of old trees, bottom of gate-posts, &c. Spring to autumn.

Tufted. *Pileus* 1–2 inches broad, plano-convex, somewhat umbonate, glabrous, extremely thin at the margin, of a yellowish, reddish-buff or brownish-orange colour. *Lamellæ* numerous, mostly eight in a series, rather narrow, adnate, yellowish at first, afterwards greenish, and mottled with the *sporidia.* *Stipes* slender, cylindrical, equal, firm, hollow, of a yellow colour, 2–9 inches in length, and 2–3 lines in thickness. *Veil* a delicate curtain, becoming blackish, but mostly so evanescent as to leave only a stain upon the stipes. *Taste* intensely bitter.

One of the common Agarics, abounding at the base of old trees, and gate-posts in a state of decay, and similar situations.

The dense clusters it forms, are frequently composed of several hundred plants, and the stems, which accommodate themselves in length and direction to their situation, are so crowded and compressed at their base, as to appear more or less united in bundles, whence the origin of the specific name. In general habit, this species resembles *A. velutipes*, a plant confined to the same kind of station; and still more nearly *A. lateritius*, a very distinct species, to which *A. pomposus* of BOLTON must be referred.

The sporidia of *A. fascicularis* are of a dark colour, and are shed so copiously, as to discolour all the pilei situated beneath the rest.

Fig. 1. *A section of the pileus and stipes,* natural size.

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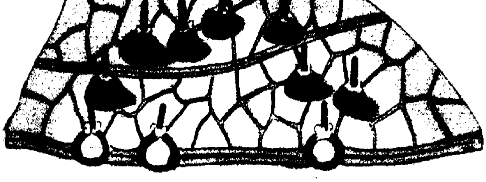

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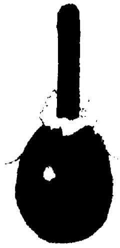

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SPHÆRIA CORYLI.

Hazle-leaf Sphæria.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *HYPOXYLA*, *De Cand.*

GENERIC CHARACTER.

Perithecia gelatina diu farcta. Asci subclavati, sporidiis simplicibus, pellucidis villi vel fumi instar expulsus.—Innatæ, epidermidæ tectæ, dein sæpe erumpentes.—FRIES.

Perithecia remaining for a length of time filled with gelatine. Asci subclavate. Sporidia simple, pellucid, escaping in the form of a villose mass or vapour.—Innate, covered by the epidermis, at length often bursting through it.

SPECIFIC CHARACTER.

SPHÆRIA Coryli; *peritheciis atris, distinctis, in circulum dispositis, ostiolis erumpentibus spinulosis, basi fimbria albicante cinctis.*

S. perithecia black, distinct, arranged in a circle, the orifices exserted like spines, and surrounded at their base with a white fimbriated collar.

SPHÆRIA Coryli, *Batsch, Elench. Fung.* Cont. 2. f. 231.—*De Cand. Fl. Franç.* v. 6. p. 129.—*Fries, Scler. Suec.* No. 201.—*Syst. Myc.* v. 2. p. 436.—*Schmidt et Kunze, Exsicc.* No. 156.

SPHÆRIA fimbriata, var. β, Coryli, *Pers. Syn. Fung.* p. 36.

SPHÆRIA Gnomon, *Schum. Fl. Sæll.* v. 2. p. 157.

HAB. On the leaves (while yet living) of the Common Hazel (*Corylus Avellana*), and probably on other species of the genus.

Perithecia arranged in little circles about two lines in diameter, very small, intensely black, distinct, prominent, the lower half immersed in the substance of the leaf, and producing a black, shining dot on the opposite surface. *Orifice* or *Ostiolum* exserted like a little spine or tube, erect, black, equal in its diameter to the apex, which is obtuse, at its base surrounded by a ring or collar, composed of a thin, white, membranaceous substance. *Asci* clavato-fusiform. *Sporidia* minute, ovate.

A pretty little *Sphæria*, supposed to be a variety of *S. fimbriata* by PERSOON, but differing from it in the perithecia not being united into one mass, and in the ostiola being shorter.

It is proposed by FRIES to retain, under the name of *Sphæria*, the sections *Epiphericæ* and *Subinnatæ* of the Systema Mycologicum: or those spheroid plants which are simple or at most furnished with a slight stroma, innate, covered by the epidermis, and in some cases bursting through it. The interior is not filled with a black pulverulent mass in maturity, as in the genus *Hypoxylon*, but, on the contrary, with a pale gelatine; and the sporidia, instead of being opake, and divided by septa, are pellucid and simple. The form of the perithecia, too, are more uniformly spherical than in the other groups.

Fig. 1. *Portion of the leaf, with perithecia.* Fig. 2. *A perithecium.* Fig. 3. *Asci and sporidia;* magnified.

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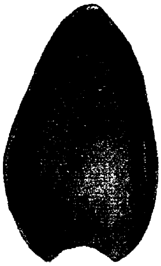

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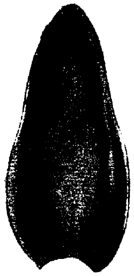

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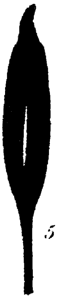

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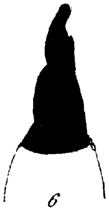

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331

TORTULA BREVIROSTRIS.

Short-beaked Screw Moss.

[redacted]DER CRYPTOGAMIA MUSCI, *Linn.*—NAT. ORD. *MUSCI*, *Juss.*

GENERIC CHARACTER.

[redacted] *Peristomium simplex e dentibus 32 spiraliter tortis, ad basin* [redacted] *Calyptra dimi-*

Fruitstalk terminal. Peristome single, of 32 spirally twisted teeth, united more or less at the base into a tubular membrane. Calyptra dimidiate.

SPECIFIC CHARACTER.

TORTULA brevirostris; *caule brevissimo, foliis paucis, rotundo-ellipticis, obtusissimis, concavis, enervibus, rigidis, marginibus involutis; operculo conico, vix rostellato, thecam oblongam duplo breviore.*

T. stem very short, leaves few, roundish-elliptical, very obtuse, concave, nerveless, rigid, involute at the margin: lid conical, scarcely beaked, half the length of the oblong capsule.

TORTULA brevirostris, *Hook. & Grev. in Brewster's Journ. of Science*, v. 1. p. 289. t. 12.—*Hook. & Tayl. Musc. Brit.* ed. 2. p. 5. t. 2. *(Suppl.)*—*Arn. Disp. Musc.* p. 37.

BARBULA rigida, *Funck, Deutschl. Moose*, t. 15.

HAB. On an old wall near Edinburgh. DAVID STEUART, Esq.

Stem scarcely any. *Leaves* few, spreading, dark lurid green, rigid, rotundato-elliptical, very obtuse, nerveless, involute at the margin. *Fruitstalk* half an inch in length or more, slender. *Capsule* reddish, oblong, even, the lid conical, scarcely half the length of the capsule. *Peristome* red, short, twisted.

Mr DAWSON TURNER, in his description of *Tortula rigida*, in Muscologia Hibernica, observes, that the operculum was "in exemplaribus a SWARTZIO missis conicum obtusiusculum;" and Sir JAMES EDWARD SMITH, in his Flora Britannica, also mentions, "Operculum in exemplaribus Suecicis, ab amicissimo Professore SWARTZIO missis, quam in nostris duplo brevius est."

TORTULA BREVIROSTRIS.

Short-beaked Screw Moss.

CLASS AND ORDER CRYPTOGAMIA MUSCI, *Linn.*—NAT. ORD. *MUSCI*, *Juss.*

GENERIC CHARACTER.

Seta terminalis. Peristomium simplex e dentibus 32 spiraliter tortis, ad basin majus minusve in membranam tubiformem unitis, vel liberis. Calyptra dimidiata.

Fruitstalk terminal. Peristome single, of 32 spirally twisted teeth, united more or less at the base into a tubular membrane. Calyptra dimidiate.

SPECIFIC CHARACTER.

TORTULA brevirostris; *caule brevissimo, foliis paucis, rotundo-ellipticis, obtusissimis, concavis, enervibus, rigidis, marginibus involutis; operculo conico, vix rostellato, thecam oblongam duplo breviore.*

T. stem very short, leaves few, roundish-elliptical, very obtuse, concave, nerveless, rigid, involute at the margin: lid conical, scarcely beaked, half the length of the oblong capsule.

TORTULA brevirostris, *Hook. & Grev. in Brewster's Journ. of Science,* v. 1. p. 289. t. 12.—*Hook. & Tayl. Musc. Brit.* ed. 2. p. 5. t. 2. *(Suppl.)*—*Arn. Disp. Musc.* p. 37.

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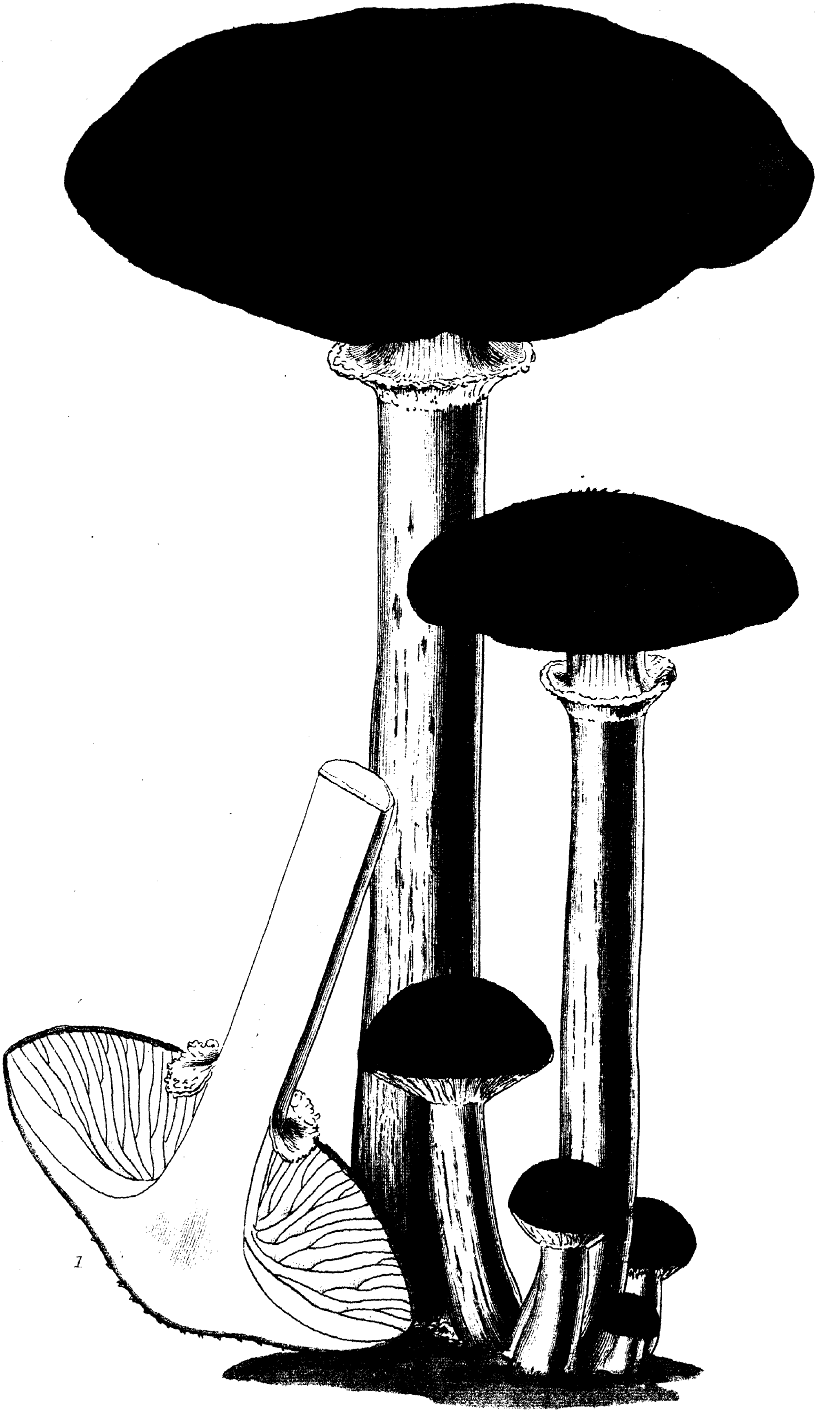
There can be little doubt that the specimens here alluded to, belong to the species we have denominated *brevirostris;* and we should perhaps be justified, upon such authority, were we to bring the *Tortula rigida* of SWARTZ into the list of our synonyms, although his specific character is not of itself decisive.

The true *Tortula rigida* is that of Mr TURNER,—the *Bryum rigidum* of DILLENIUS and HUDSON, the leaves of which are furnished with a nerve. The *Tortula rigida* of SMITH (*Barbula rigida,* HEDW.), is again another plant, nearer the subject of our present description, in having nerveless leaves; but differing from it in having those leaves of a longer and narrower form, and in having an operculum only a little shorter than the capsule.

Fig. 1. *T. brevirostris,* natural size. Fig. 2. *Plant.* Fig. 3. *Lower leaf.* Fig. 4. *Upper leaf.* Fig. 5. *Capsule.* Fig. 6. *Peristome:*—magnified.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AGARICUS MELLEUS.

Black-scaled Agaric.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *FUNGI, Link.*

GENERIC CHARACTER.

Pileus stipitatus aut latere affixus, subtus lamellis rectis, simplicibus, sporidiferis. Volva nulla.

Pileus furnished with a stipes, or fixed by its side; bearing on the under surface straight, simple, sporidiferous lamellæ. Volva none.

SPECIFIC CHARACTER.

AGARICUS melleus; *cæspitosus, pileo sordide luteo, squamis pilosis nigricantibus echinato, lamellis adnato-decurrentibus, distantibus, stipite fibrilloso, solido, annulo tumido patulo.*

AG. tufted, pileus dingy yellow, bristled with black hairy scales, lamellæ adnate-decurrent, distant; stipes fibrillose, solid, annulus tumid, spreading.

AGARICUS melleus, *Fl. Dan.* t. 1013.—*Bolt. Fung.* t. 141.—*Fries, Syst. Myc.* v. 1. p. 30.—*Grev. Fl. Edin.* p. 371.

AGARICUS Polymyces, *Pers. Disp. Meth. Fung.* p. 19.—*Syn. Fung.* p. 270. —*Albert. et Schwein.* p. 149.—*Schwein. Fung. Carol.* No. 566.—*Tratt. Esb. Schwacm.* p. 46. t. D.

AGARICUS stipitis, *Sow. Fung.* t. 101.—*Sibth. Fl. Oxon.* No. 944.—*Relh. Fl. Cantab.* p. 525.—*Purt. Midl. Fl.* v. 2. p. 631.—*With. Bot. Arr.* v. 4. p. 241. —*Hook. Fl. Scot.* Pt. 2. p. 20.

AGARICUS cumulatus, *With. Bot. Arr.* v. 4. p. 212.

AGARICUS fusco-pallidus, *Bolt. Fung.* t. 136.

AGARICUS congregatus, *Bolt. Fung.* t. 140.

AGARICUS annularius, *Bull. Champ.* t. 377. et 540. f. 3.—*De Cand. Fl. Franç.* v. 2. p. 203.—*Ejusd. Syn.* p. 41.

AGARICUS obscurus, *Schæff. Fung.* t. 74.

AGARICUS putridus, *Scop. Fl. Carn.* p. 420.

AGARICUS laricinus, *Bolt. Fung.* t. 19.?—*With. Bot. Arr.* v. 4. p. 243.?

POLYMYCES (varietates), *Batt. Fung.* t. 11.

FUNGUS esculentus, &c. *Mich. Nov. Gen. Pl.* p. 199. t. 81. f. 2.

HAB. About the roots, and on the decaying trunks of fallen trees, in autumn. Frequent.

Tufted. *Pileus* one to five inches in breadth, hemispherical in its young state, at length nearly plane, except in the center, where it is usually, but not invariably, more or less umbonate, slightly striated, and often

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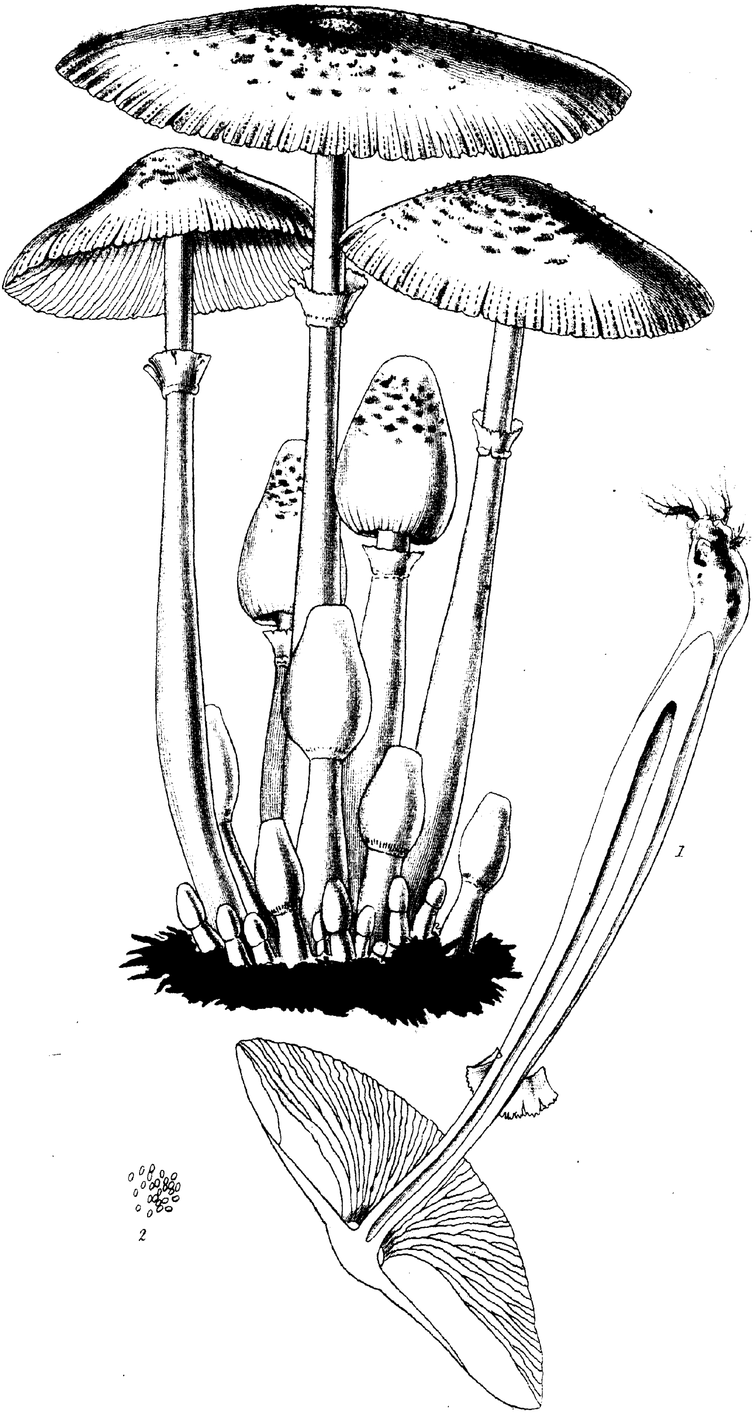
somewhat uneven at the margin; *surface* unequally covered with dark or black pointed scales composed of bristly hairs, most numerous in the center; the *colour* of the pileus is otherwise variable,—dull yellow, brownish-yellow, or reddish. *Lamellæ* narrow, whitish, at length partly reddish, rather distant, eight in a series, adnate or even slightly decurrent. *Stipes* two to eight inches high, robust, firm, somewhat fibrillose, generally incrassated at the base, some shade of yellow, changing in age to a reddish or olivaceous colour, solid, white and spongy within. *Annulus* always present, spreading, large and tumid. *Sporidia* white, copious, and when shed from the uppermost pilei upon those immediately beneath them, giving them the appearance of having been sprinkled with white powder.

There is scarcely a plant more apt to assume different aspects, under different circumstances, than the present one, and yet, to an experienced eye, there is always a peculiarity about it, not easily expressed in words, which is sufficient to distinguish it. I trust, however, the above description will be found to apply as faithfully as can be necessary for all practical purposes.

This species is said to be frequently eaten on the Continent, at least M. FRIES quotes the authority of TRATTINNICK for the fact. But, on the other hand, PERSOON gives it a bad character; and in this he is supported by PAULET, who tried its effect upon a dog. The poor animal died twelve hours after receiving the poisonous fungus. Almost all fungi are injurious which grow in a tufted manner, and especially those on the trunks of trees, and similar situations.

Fig. 1. *A section of the pileus,* natural size.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AGARICUS CEPÆSTIPES.

Common Bark-bed Agaric.

Class and Order CRYPTOGAMIA FUNGI, *Linn.*—Nat. Ord. *FUNGI*, *Link.*

GENERIC CHARACTER.

Pileus stipitatus aut latere affixus, subtus lamellis rectis, simplicibus, sporidiferis. Volva nulla.

Pileus furnished with a stipes, or fixed by its side; bearing on the under surface, straight, simple, sporidiferous lamellæ. Volva none.

SPECIFIC CHARACTER.

Agaricus cepæstipes; *pileo campanulato, demum plano, sparsim squamoso, margine plicato tenuissimo, lamellis liberis, stipite cavo, ventricoso, lævi, annulato.*

Ag. pileus campanulate, at length plane, more or less scaly, the margin plicate, very thin, lamellæ free; stipes hollow, ventricose, glabrous, annulated.

Agaricus cepæstipes, *Sow. Fung.* t. 2.—*Pers. Syn. Fung.* p. 416.—*Alb. et Schwein.* p. 203.—*De Cand. Fl. Franç.* v. 2. p. 202.—*Ejusd. Syn.* p. 41.—*Schwein. Fung. Carol.* No. 718.—*Fries, Syst. Mycol.* v. 2. p. 280.

Agaricus luteus, *With. Bot. Arr.* v. 4. p. 289.—*Hook. Fl. Scot.* Pt. 2. p. 22.

Agaricus cretaceus, *Bull.* t. 374.?—*With. Bot. Arr.* v. 4. p. 273.?—*Purt. Midl. Fl.* v. 3. p. 212.?—*Fries, Syst. Myc.* v. 1. p. 280.?

Hab. On bark beds in stoves and hot-houses. Summer and autumn.

Gregarious or tufted. Whole plant white, pale sulphur colour or yellow. *Pileus* 1–3 inches broad, ovate-conical when young, then campanulate, and finally nearly or quite plane, darkest in the center, and more or less covered with small scattered fibrous scales, the *flesh* thin, and vanishing entirely towards the margin, which is plicate and semitransparent; the *substance* is, however, tough, and bears folding between the fingers without laceration. *Lamellæ* numerous, thin, in no regular series, the extremities next the stipes broad and rounded, and separated from it by a circular space. *Stipes* 3–6 inches high, straight or crooked, firm, even, smooth, narrow at the top, but ventricose below, and then narrower again at the very bottom, somewhat pruinose, the center at first filled with delicate silky fibres, at length hollow. *Annulus* perfect, erect, persistent. *Sporidia* white, copious, elliptical.

In decay, the pileus turns brownish, and, according to its situation, either dries up, or becomes covered with little globules of fluid, and gradually dissolves.

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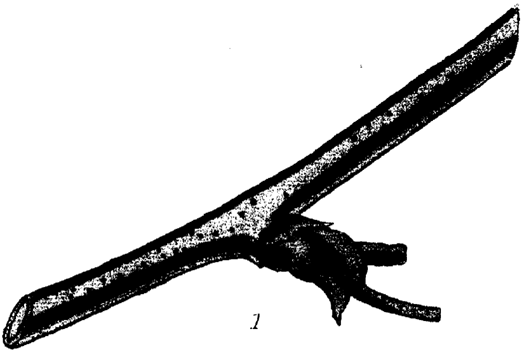
I am happy to have the opportunity of giving the figure of a species, which does not seem to be perfectly understood by those who have written upon the fungi. Dr WITHERING considers the yellow and the white varieties figured by SOWERBY as distinct species; the yellow one as *Ag. luteus*, the white one as *Ag. cretaceus* of BULLIARD; the latter, however, he has described twice over, in the one place as a variety of *A. luteus*, in the other place by itself. Dr HOOKER, in the Flora Scotica, has followed him in this separation. ALBERTINI and SCHWEINITZ also retain *A. cepæstipes* for the white variety, and erroneously place *A. luteus*, WITH. as a synonym to their *A. Flammula*, of the distinction of which there can be no doubt. In the Systema of FRIES, we find both varieties, the *Ag. cepæstipes*, SOW. in a small uncertain tribe of the *Pratella* series, while *Ag. cretaceus*, BULL. is removed as a distinct species to the tribe following. The only author I know of, who has thrown them all together, is Mr PURTON. The fact is, SOWERBY is really correct in attributing both a yellow and white colour to this species. I have examined it in both states very carefully, and have ascertained his representation to be perfectly faithful. In regard to BULLIARD's plant, I have not much hesitation in referring it to this place, both from his plate and description; but it must be confessed, his figure of the young pileus so little agrees with ours, as to render it doubtful whether his young and full-grown specimens belong to the same species.

Fig. 1. *A section of the stipes and pileus of a full-grown plant,* natural size.
Fig. 2. *Sporules;* magnified.



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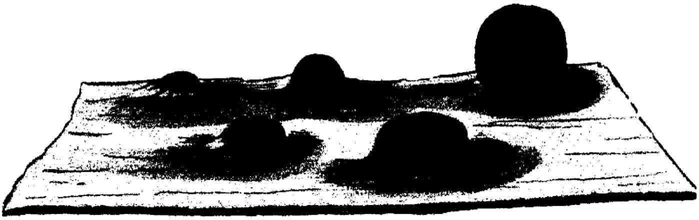

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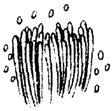

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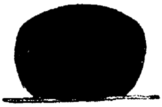

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EXCIPULA Rubi.

Raspberry-stem Excipula.

Class and Order CRYPTOGAMIA FUNGI, *Linn.*—Nat. Ord. *FUNGI, Link.*

GENERIC CHARACTER.

Perithecium subinnatum, orbiculare, margine inflexo, clausum, dein ore orbiculare discoideo-apertum.—Fries.

Perithecium subinnate, orbicular, closed with the inflexed margin, at length open, disk-like, the orifice orbicular.

SPECIFIC CHARACTER.

Excipula Rubi; *innato-erumpens, peritheciis subcorneis lævibus atris, disco aperto, demum planiusculo, pallescente.*

E. innate, bursting forth, perithecia slightly corneous, even, black, the disk open, at length nearly plane, and of a pale colour.

Excipula Rubi, *Fries, Sclerom. Suec.* No. 101.—*Ejusd. Syst. Myc.* v. 2. p. 190.

Hab. On the dead stems and branches of the Common Raspberry *(Rubus Idæus)*, frequent. Perennial.

Minute, gregarious, innate, bursting through the epidermis. *Perithecia* roundish, very black, slightly corneous, even, smooth, the margin inflexed, connivent, entire, thin, at length expanding, and leaving the rather pale disk nearly plane. *Asci* forming a soft, nearly level stratum.

I have followed my learned friend M. Fries in placing this plant in his genus *Excipula*, but I fear it is rather too nearly allied to *Peziza*. The genus itself is made up of species formerly *Pezizæ*, and unites those fungi with the *Sphæriæ*. With *Phacidium* and *Hysterium* it has the nearest affinity, differing from the former in the perithecium remaining entire, from the latter in its orbicular form, and from both in the less corneous substance of the perithecium. The *asci* are in the present species erect, and contain very minute oval sporidia. On the application of moisture, the *Excipulæ* re-

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cover their form, and the mass of asci in most instances swells out in a tumid manner.

Fig. 1. *E. Rubi,* natural size. Fig. 2. *Perithecia in different states.* Fig. 3. *A section.* Fig. 4. *Section of an old plant.* Fig. 5. *Asci and sporidia;* magnified.

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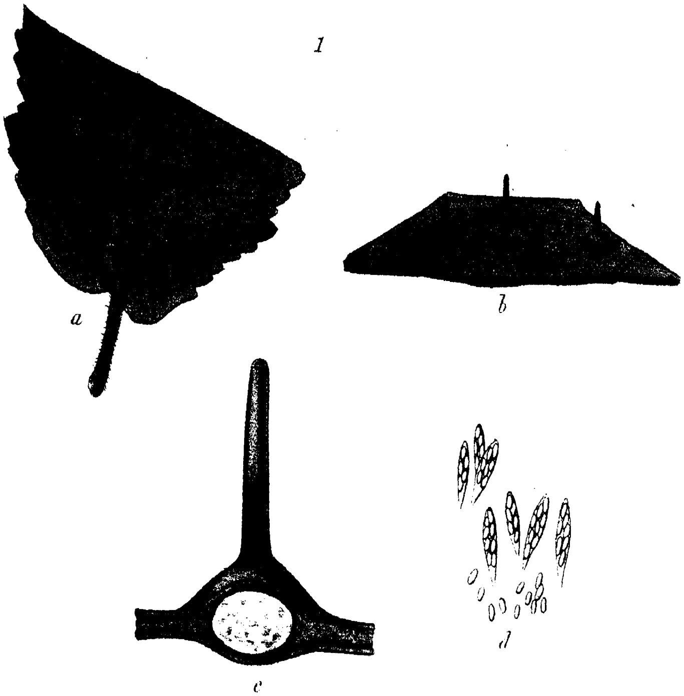

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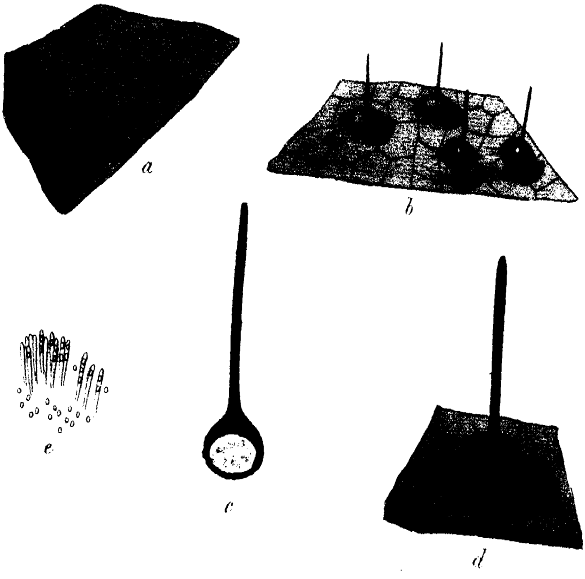


SPHÆRIA TUBÆFORMIS.

Tubiform Sphæria.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *HYPOXYLA*, *De Cand.*

GENERIC CHARACTER.

Perithecium gelatina diu farcta. Asci subclavati, sporidiis simplicibus pellucidis, villi vel fumi instar expulsis.—Innatæ, epidermide tectæ, dein sæpe erumpentes.—FRIES.

Perithecia remaining for a long time filled with gelatine. Asci subclavate. Sporidia simple, pellucid, escaping in the form of a villose mass or vapour.—Innate, covered with the epidermis, at length often bursting through it.

SPECIFIC CHARACTER.

SPHÆRIA tubæformis; *peritheciis tectis, depresso-globosis, glabris, ostiolo rostellato striato, subæquali fulvo.*

S. perithecia concealed, depressed-globose, glabrous, the orifice beaked, straight, subequal, reddish-brown.

SPHÆRIA tubæformis, *Tode, Fung.* 2. p. 51. t. 16. f. 128.—*Pers. Syn. Fung.* p. 60.—*Alb. et Schwein.* p. 31.—*Nees, Syst.* t. 42. f. 343.—*Schmidt, Myc.* Heft. 2. t. 2. f. 7.—*Moug. et Nestl. St. Exs.* No. 280.—*Schmidt et Kunze,* No. 56.—*Fries, Scler. Suec.* No. 26.—*Syst. Mycol.* v. 2. p. 516.—*Mart. Fl. Erlang.* p. 487.—*Hook. Fl. Scot.* Pt. 2. p. 7.—*Schwein. Fung. Carol.* No. 148.

HAB. On dead leaves of various trees, frequent in winter and spring.

Gregarious, small. *Perithecia* orbicular, flattened, permanently concealed beneath the epidermis, the *orifice* exserted, rigid, straight, thickish, nearly equal or somewhat subulate, but obtuse at the apex, glabrous, and of a reddish-brown colour. *Asci* clavate-elliptical, containing 6–8 oval pellucid *sporidia* irregularly arranged.

This is a very common species, occurring principally upon the leaves of *Alnus glutinosa*, *Fagus sylvatica*, *Corylus Avellana*, and *Betula alba*. It has, however, been only recently observed in Great Britain.

Fig. 1. a, *S. tubæformis*, natural size. b, *Perithecia*. c, *Perithecium divided*. d, *Asci and sporidia;* magnified.

SPHÆRIA GNOMON.

Black bristle-bearing Sphæria.

SPECIFIC CHARACTER.

SPHÆRIA Gnomon; *peritheciis nigris, globosis, erumpentibus, demum collapsis, ostiolo elongato, filiformi-clavato, nigro, recto.*

S. perithecia black, globose, bursting forth, at length collapsed, the orifice elongated, clavate-filiform, black, straight.

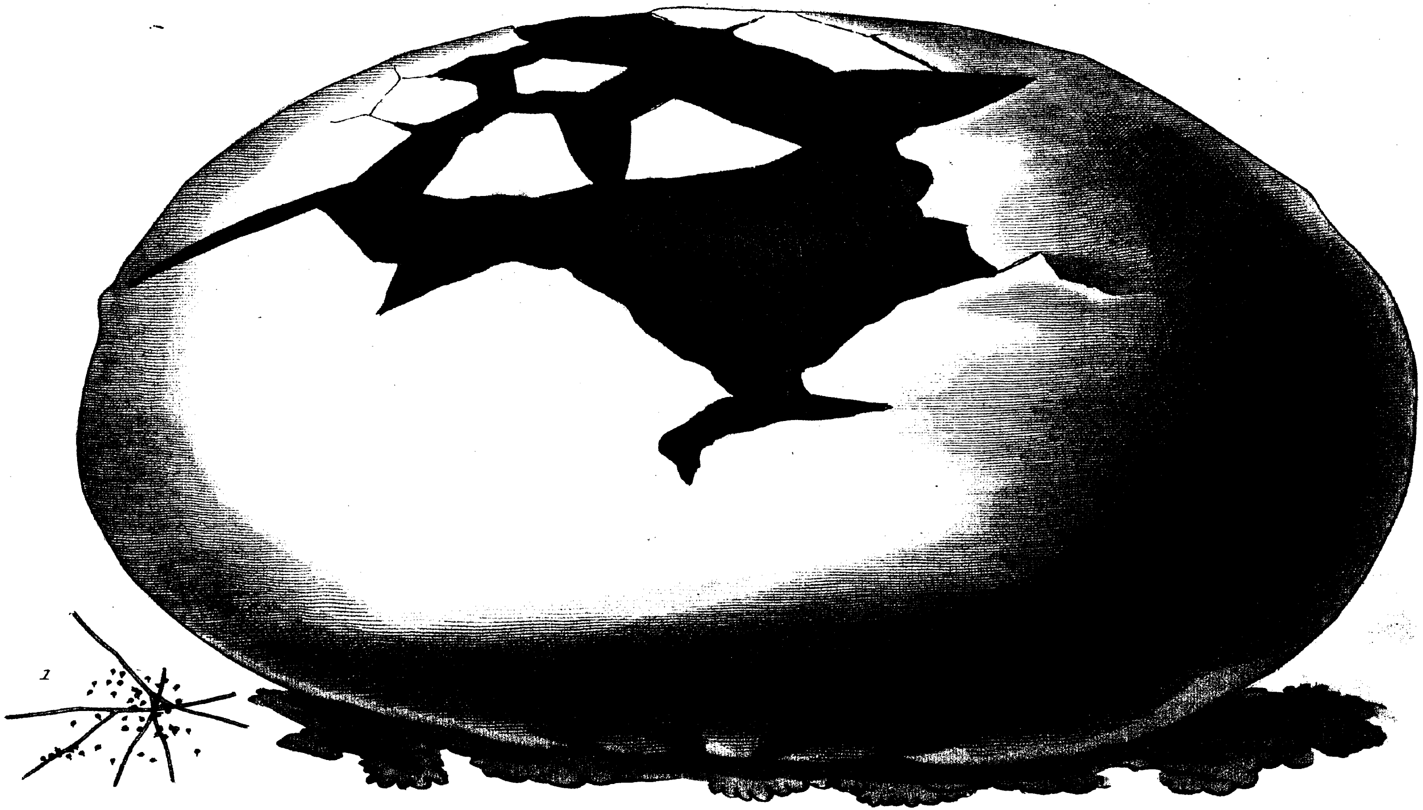
SPHÆRIA Gnomon, *Tode, Fung.* 2. p. 50. t. 16. f. 125.—*Pers. Disp. Meth. Fung.* p. 51.—*Syn. Fung.* p. 61.—*Alb. et Schwein.* p. 32.—*De Cand. Fl. Franç.* v. 6. p. 130.—*Sow. Fung.* t. 373. f. 6.—*Schmidt et Kunze, Exsicc.* No. 57.—*Fries, Sclerom. Suec.* No. 285.—*Syst. Myc.* v. 2. p. 517.—*Mart. Fl. Erlang.* p. 487.—*Purt. Midl. Fl.* v. 3. p. 280.—*Schwein. Fung. Carol.* No. 149.

HAB. On the dead leaves of the Hazel (*Corylus Avellana*), in winter and spring.

Subgregarious, very minute. *Perithecia* at first covered by the epidermis, at length bursting through it, black, even, glabrous, globose, collapsing in age, the orifice long, bristle-like, very slightly clavate, straight, black. *Asci* short, clavate, containing very minute globular *sporidia.*

So minute is this little well-marked species, that it is a matter of wonder it should have been figured by SOWERBY, while the preceding larger and more frequent one should have remained unnoticed. In America, it is found by SCHWEINITZ on the leaves of *Castanea pumila*; but in Europe, it appears to be confined to those of the Hazel.

Fig. 2. a, *S. Gnomon,* natural size. b, *Perithecia; two of them still covered by the epidermis.* c, *Perithecium divided.* d, *Perithecium in its collapsed state.* e, *Asci and sporidia;* magnified.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BOVISTA GIGANTEA.

Great double-coated Puff-ball.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *GASTROMYCI*, *Link.*

GENERIC CHARACTER.

Peridium duplex; exterius inæqualiter ruptum secedens; interius membranaceum irregulariter rumpens. Sporidia pedicellata floccis infixa.

Peridium double; outer one breaking unequally and falling off; inner one membranaceous, bursting irregularly. Sporidia attached to the flocci by minute pedicels.

SPECIFIC CHARACTER.

BOVISTA gigantea; *magna, globosa, albida, peridio externo glabro.*

B. large, globose, white, outer peridium glabrous.

BOVISTA gigantea, *Nees, Syst.* p. 34. t. 11. f. 124.—*Mart. Fl. Erlang.* p. 384. *Grev. Fl. Edin.* p. 458.

LYCOPERDON giganteum, *Batsch, Elench. Fung.* p. 237. t. 29. f. 165.—*Pers. Syn. Fung.* p. 140.—*De Cand. Fl. Franç.* v. 2. p. 264.—*Ejusd. Syn.* p. 55. —*Hook. Fl. Scot.* Pt. 2. p. 11.

LYCOPERDON Proteus, *Sow. Fung.* t. 332. *the two upper figures.*

LYCOPERDON Proteus, var. 1. *With. Bot. Arr.* v. 4. p. 452.—*Purt. Midl. Fl.* v. 3. p. 477. *in part.*

LYCOPERDON Bovista, *Bull. Champ.* p. 154. t. 447.—*Lightf. Fl. Scot.* p. 1066. var. *glabrum.*

LYCOPERDON maximum, *Schæff. Fung.* v. 4. p. 130. t. 191.

HAB. Grassy shady places, in autumn, not very common.

Plant very large, five inches to one or even two feet in diameter, globose. *Outer peridium* at first beautifully white, but as it verges towards maturity, yellowish; thickish, glabrous, at length peeling off in large irregular flakes. *Inner peridium* thin, membranaceous, olivaceous, bursting irregularly. The interior is composed in the young state of a homogeneous white substance, afterwards becoming spongy and greenish, and at last a prodigious quantity of minute, globose *sporidia* are developed, of a brownish colour, furnished with pedicels, by which they are attached to numerous intermingled filaments.

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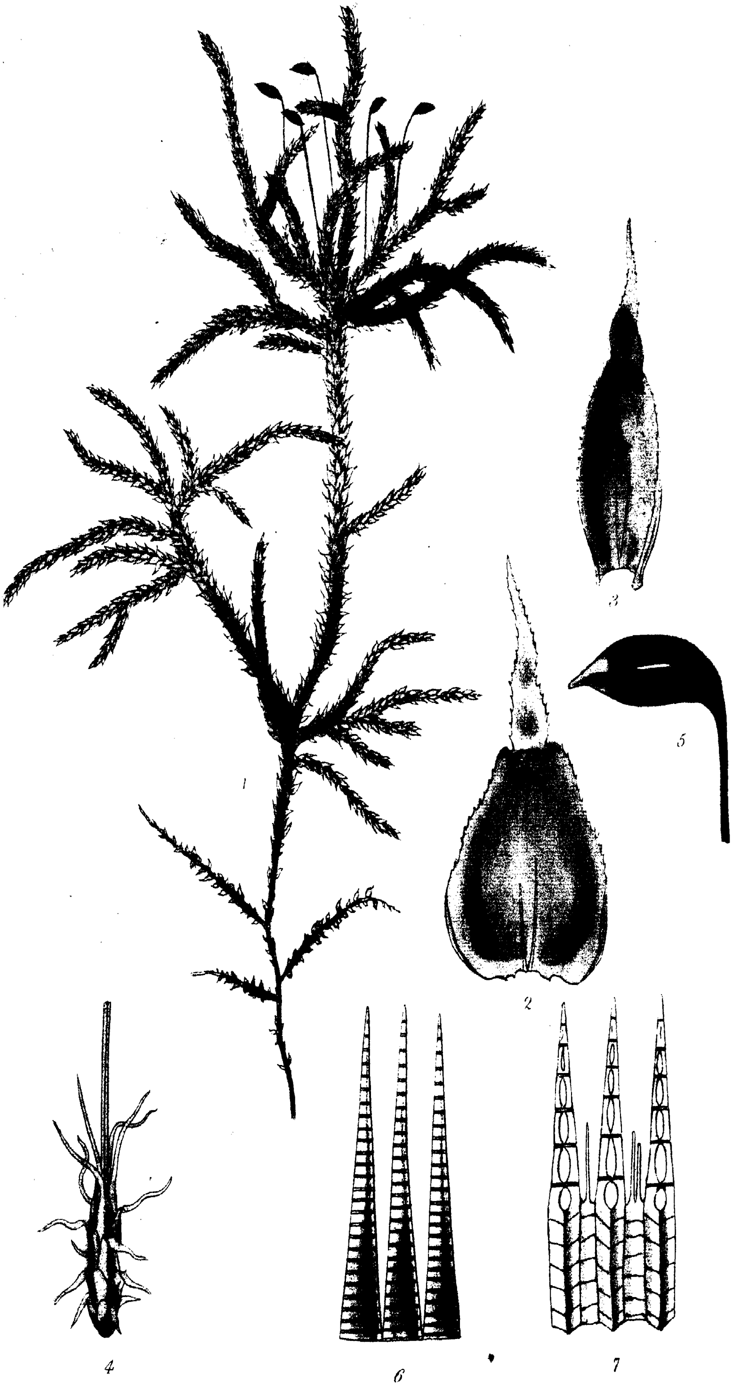
The largest fungus contained in the group denominated *Gasteromycetes* by **Fries**, *Gastromyci* by **Link**, and *Dermatocarpi* by **Persoon**. A specimen recently communicated to me by Mr **Neill**, measured twelve inches in diameter; but this is greatly inferior to many others mentioned by naturalists. **Bulliard** says its ordinary size is about that of a man's head, but he himself found them occasionally eighteen, twenty, and twenty-three inches in diameter. He mentions further, that he had received accounts of others which were nearly nine feet in circumference. **Lightfoot**, too, asserts that specimens have been gathered in Padua in Italy weighing twenty-five pounds, and measuring two yards in circumference,—a size by no means improbable. Their growth is also extremely rapid.

We are informed by Dr **Withering**, that the "fumes of this, when burnt, have a narcotic quality, and, on this account, it is sometimes made use of to take a hive, without destroying the bees. It is also sometimes used as a styptic, and to carry fuel in from a distance."

It will scarcely be credited, that the puff-balls should be considered an article of food in any country; nevertheless we are assured by **Marsigli**, that the Italians used to take not only the present species, but several others, while in the young state, and fry them for the table. I cannot ascertain, however, whether they still retain any reputation, but **Persoon** having excluded them from his "Champignons comestibles," we may infer the contrary.

In some parts of England, the species now described has received the names of *Puckfist* and *Frog-cheese*.

Fig. 1. *Sporidia and filaments*, magnified.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HYPNUM BREVIROSTRE.

Short-beaked Feather-Moss.

CLASS AND ORDER CRYPTOGAMIA MUSCI, *Linn.*—NAT. ORD. *MUSCI, Juss.*

GENERIC CHARACTER.

Seta lateralis. Peristomium duplex: ext. *e dentibus* 16: int. *membrana plicata, 16-laciniata, ciliis alternantibus. Calyptra dimidiata.*

Fruitstalk lateral. Peristome double: the outer one of 16 teeth; the inner one of a plicate membrane, cleft into 16 segments, with ciliary processes between them. Calyptra dimidiate.

SPECIFIC CHARACTER.

HYPNUM brevirostre; *caule vage ramosa, foliis squarrosis, late ovatis, concavis, vix striatis, acuminatis, apicem versus undulato-contractis, serratis, basi bi-nervibus; theca cernua, operculo conico.*

H. stem irregularly branched: leaves squarrose, broadly ovate, concave, scarcely striated, acuminate, undulato-contracted towards the end, serrated, 2-nerved at the base; capsule cernuous, lid conical.

HYPNUM brevirostre, *Ehrh. Pl. Exsicc.* No. 85.—*Brid. Suppl. Musc.* 2. p. 195. —*Meth. Musc.* p. 175.—*Schwaegr. Suppl.* 1. Pt. 2. p. 279.—*Moug. et Nestl. St. Crypt.* No. 423.—*Hook. Fl. Scot.* Pt. 2. p. 146.—*Funck, Deutschl. Moose,* t. 48.—*Hob. Brit. Mosses,* v. 2.—*Arn. Disp. Musc.* p. 67.—*Hook. et Tayl. Musc. Brit.* ed. 2. p. 182. t. 5. (Suppl.)

HYPNUM triquetrum, var. β, *Web. et Mohr, Taschb.* p. 354.—*Hook. et Tayl.* l. c. ed. 1. p. 108.

HYPNUM erectum, *Raddi, fide Hook. et Tayl.*

HYPNUM interruptum, *Brid. Supp. Musc.* 2. p. 194. *fide Schwaegr.*

HAB. Woods. It has been found in Argyleshire by Captain CARMICHAEL. The English stations recorded in Muscologia Britannica, are the general ones: near New Forest, Mr LYELL; Manchester, Mr HOBSON; Devonshire, Rev. W. T. BREE.

Stems irregularly branched, every where more or less clothed with leaves of a yellowish-green colour. *Leaves* imbricated, spreading on all sides, serrated, concave, acuminate, faintly striated, furnished with two rather indistinct nerves at the base: those of the *stem* squarrose, broadly cordato-ovate, curiously contracted at the base of the acumination by a single undulation on each side: those of the branches spreading or erecto-patent, ovate, with a similar contraction below the acumination. *Perichætial leaves* nerveless, imbricated, their linear elongated summits spreading or even somewhat reflexed. *Fruitstalk* one inch to one inch

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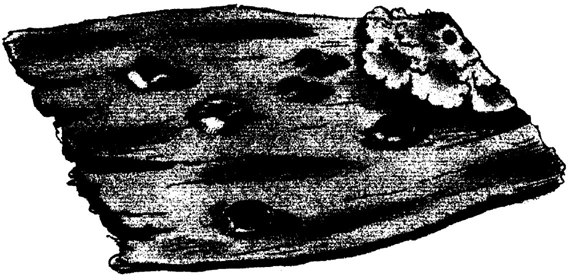
and a half in length, straight, smooth. *Capsule* ovate, cernuous, red. *Lid* conical, with a very short beak, altogether about one-third the length of the capsule. *Outer peristome* of 16 yellowish teeth; *Inner one* of a yellow membrane, the segments of which have a series of perforations down the centre; *intermediate ciliæ* solitary or in pairs, short.

This fine moss is the *Hypnum brevirostre* of EHRHART, and not of "English Botany," the plant figured in that work being no other than *H. rutabulum*, a species very apt to assume different appearances. Sir JAMES EDWARD SMITH has himself corrected this error in the last edition (the fourth) of his Compendium, but does not seem to be aware that the true plant is also a native of this country.

The squarrose aspect of *H. brevirostre* at once places it in the same group with *H. triquetrum, squarrosum, loreum*, and other species. It is unquestionably more nearly related to the first of these than to any other moss, but is clearly distinguished from it by its smaller size; by the leaves of the stem and larger branches only being squarrose; by the peculiar contraction towards the summit of all the leaves; and, lastly, by the longer and narrower capsule.

Fig. 1. *H. brevirostre,* natural size. Fig. 2. *One of the cauline leaves.* Fig. 3. *Leaf from a branch.* Fig. 4. *Perichætium.* Fig. 5. *Capsule with the lid.* Fig. 6. *Portion of the outer peristome.* Fig. 7. *Portion of the inner ditto,* magnified.



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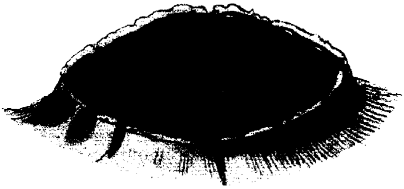

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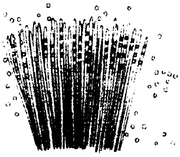

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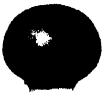

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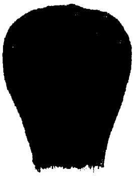

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TYMPANIS CONSPERSA.

Common Tympanis.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *HYPOXYLA?* *De Cand.*

GENERIC CHARACTER.

Perithecium cyathiforme, marginatum, apertum, superne membrana tenui fatiscente tectum. Asci filiformes, fixi.—FRIES.

Perithecium cup-shaped, marginate, open, covered above with a delicate lacerating membrane. Asci filiform, fixed.

SPECIFIC CHARACTER.

TYMPANIS conspersa; *cæspitosa, perithecia primo clausa sphæriæformia, atra, mox aperta, e velo fatiscente albo-pulverulenta.*

T. tufted, perithecia at first closed, sphæriaform, black, at length open, whitish and pulverulent from the minute remains of the velum.

TYMPANIS conspersa, *Fries, Syst. Mycol.* v. 2. p. 175.—*Wahl. Fl. Lapp.* p. 991.

SPHÆRIA conspersa, *Fries, in Vet. Ac. Handl.* 1817, p. 112.—*Sclerom. Suec. Exsicc.* No. 12.

CERANGIUM conspersum, *Fries, Sclerom. Suec. Exs.* No. 171.

PEZIZA Aucupariæ, *Pers. Mycol. Eur.* v. 1. p. 327.—*Grev. Fl. Edin.* p. 426.

PEZIZA Pyri, *Pers. Syn. Fung.* p. 671.—*Myc. Europ.* v. 1. p. 327.—*Alb. et Schwein.* p. 342.

PEZIZA Sphærioides, *Roth, in Ust. Ann. Bot,* v. 1. p. 11. t. 1. f. 6.—*Nees, Syst.* p. 69. t. 38. f. 281.

PEZIZA populnea, *Pers. Disp. Meth. Fung.* p. 35.—*Syn. Fung.* p. 671.—*Myc. Europ.* v. 1. p. 329.—*Alb. et Schwein.* p. 342.—*Schwein. Fung. Carol.* No. 1252.

PEZIZA conglomerata, *Wahl. Fl. Lapp.* ed. 1. p. 534.

PEZIZA sphæriæformis, *Reb. Fl. Neomarch,* p. 387.

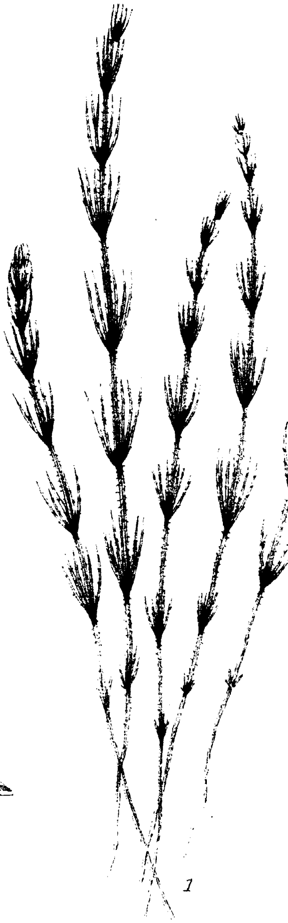
HAB. On the dead branches of various trees, but mostly on the Mountain Ash *(Sorbus Aucuparia)*; not unfrequent.

Bursting through the bark in roundish tufts of one to three lines in breadth. *Perithecia* coriaceous, crowded, coming successively to perfection, distinct at the top, but united below into one firm coriaceous base. At first the perithecia are globose, closed, black, smooth, and altogether resembling a Sphæria, covered by a thin membrane, which soon splits and disappears; afterwards they are obovate, somewhat rugose, hoary with a whitish pulverescence, the disk dilated, concave, with a thin inflexed border. *Asci* gelatinous, filiform, fixed, containing very minute, yellow, globose *sporidia.*

A plant of frequent occurrence, and belonging to a genus not hitherto illustrated in this work. It contains but few described species, only eight being introduced into the Systema of M. FRIES. The genus itself was constructed by TODE, who, for the time in which he wrote, had very accurate ideas respecting the structure of many of the smaller fungi.

FRIES has remarked of the *Tympanides,* that they possess the habit of the *Tuberculariæ* and *Sphæriæ;* and they are, indeed, along with a few other related genera, intermediate between the *Pezizeæ* and the large class *Pyrenomycetes;* differing from the former (to which they approach the nearest) in their long duration, coriaceous substance, and filiform asci; neither are the sporidia expelled from the asci with elastic force.

Fig. 1. *T. conspersa,* natural size. Fig. 2. *An entire plant as it appears bursting through the bark.* Fig. 3. *Section of a plant removed from its situation.* Fig. 4. *A young perithecium.* Fig. 5. *An old perithecium.* Fig. 6. *Asci and sporidia;* magnified.



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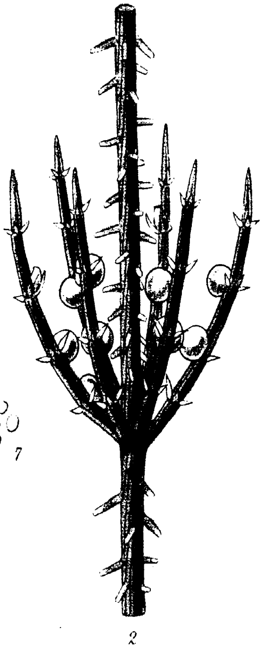

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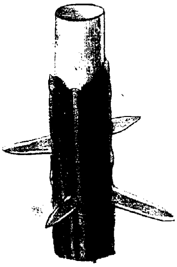

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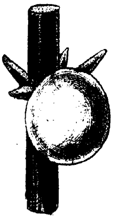

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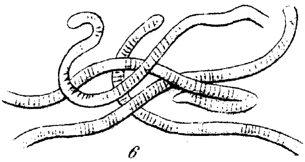

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CHARA ASPERA.

Small bristly Chara.

Class and Order MONŒCIA MONANDRIA, *Linn. Sp. Pl.*—MONANDRIA MONOGYNIA, *Smith.*—CRYPTOGAMIA ALGÆ, *Linn. Fl. Lapp. et Gen. Pl.*—CRYPTOGAMIA FILICES, *Wahl.*—*Part of* ALGÆ, *Agardh.*—Nat. Ord. NAYADES, *Juss. De Cand.*—HYDROCHARIDIBUS *affinis*, *Br.*—CHARACEÆ, *Richard.*

GENERIC CHARACTER.

Caulis spiraliter striatus, articulatus, ramulis verticillatis. Fructus duplex; nuculæ spiraliter striatæ et globuli colorati.

Stem spirally striated, articulated, bearing whorled ramuli. Fructification of two kinds; spirally striated nucules, and coloured globules.

SPECIFIC CHARACTER.

Chara aspera; *caule tenui, striato, strigoso, aculeis sparsis, patentissimis, ramulis subsenis, suberectis.*

C. stem slender, striated, strigose, prickles scattered, very spreading, the ramuli about six, nearly erect.

Chara aspera, *Willd. Act. Nat. Bot.* v. 3. p. 298.—*Wallr. Ann. Bot.* p. 185. t. 6. f. 3.—*Bruzel, Char.* p. 12. 22.—*Ag. Syst. Alg.* p. 130.
Chara hispida, var. *Wahl. Fl. Lapp.* ed. 2. p. 492.

Hab. In fresh-water. Orkney, Mr Charles Clouston. It has also been subsequently found in Prestwick Carr, county of Northumberland, by William Robertson, Esq. of Newcastle.

Stem 3–6 inches long, simple or slightly branched, not thicker than a bristle, delicately striated with green ribs, rough with solitary, scattered, horizontal or deflexed prickles. *Ramuli* verticillate, nearly erect, very slender, about six in number, with rudiments of other ramuli, resembling prickles, at the joints. The *fructification* consists of globules and nucules. The *globules,* placed opposite to the articulations, on the inner side of the ramuli, are small and pale; their membranous covering composed of indistinct triangular scales, and containing elastic, annular, curved white filaments. The *nucules* are small, yellowish, not distinctly spirally striated, rarely situated on the same articulation with the globules, though mostly on the same ramuli; within, filled with a mass of unequal pellucid granules.

The whole plant has a deposition of calcareous matter beneath the epidermis, but not in sufficient abundance to affect the green colour, though it is thereby rendered rather brittle in the dry state.

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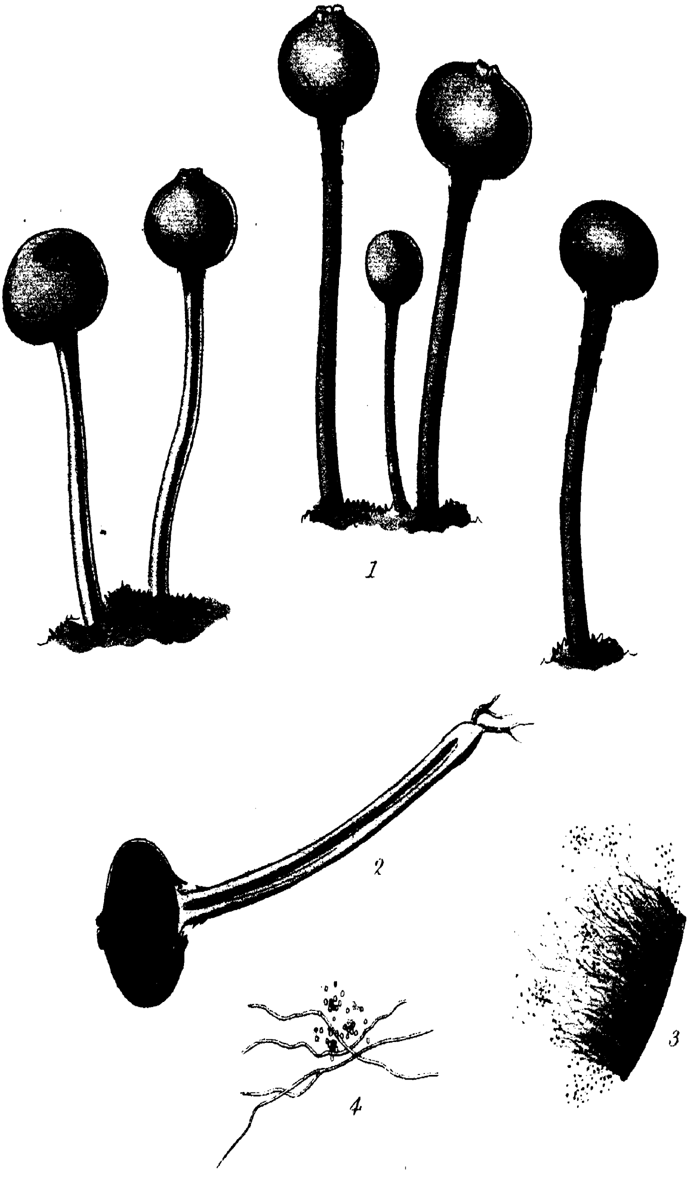
In giving a representation of this plant, I do not mean to maintain that it is unquestionably a distinct species; though its very slender mode of growth, erect ramuli, and, above all, the solitary and scattered prickles, seem to be sufficient to constitute a specific difference. At the same time, even as a variety of *Chara hispida,* it is well worth particular attention. The specimens received from my friends Mr Clouston and Mr Robertson, I have been enabled to identify with the plant of Willdenow by the kindness of Professor Agardh, who sent me authentic specimens, and considers it as indubitably distinct. The last-named botanist has divided *Chara* of other writers into two genera, *Nitella* and *Chara.* The former is chiefly distinguished from the latter, by being composed of a simple articulated tube, and by the nucule being destitute both of bracteæ and a terminal corona. In *Nitella,* the nucule and globule are said to be separated from one another, while in *Chara,* the one is said to be situated immediately above the other. This last character, I apprehend, may be inconstant; for, in the plant now before us, and which is an undoubted *Chara,* these organs are either really separated, or the globules in my specimens have fallen from below the nucules.

Fig. 1. *C. aspera,* natural size. Fig. 2. *Portion of the stem, with a whorl of ramuli.* Fig. 3. *Portion of the stem, with part of the outer membrane removed, to shew the white inner tube.* Fig. 4. *Globule in its situation.* Fig. 5. *Nucule, protected by its bracteæ.* Fig. 6. *Filaments from within the globule.* Fig. 7. *Granules from the nucule;* magnified.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TULOSTOMA BRUMALE.

Long-stalked Puff-Ball.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *GASTROMYCI*, *Link.*

GENERIC CHARACTER.

Peridium duplex; exterius connatum, in pulverem secedens; interius membranaceum, ostiolo marginato cartilagineo dehiscens. Sporidiis floccis inspersa. FRIES.

Peridium double; outer one connate, deciduous in minute portions; inner one membranaceous, bursting by a marginated orifice. Sporidia scattered among the filaments.

SPECIFIC CHARACTER.

TULOSTOMA brumale; *stipite subglabro, peridii ore abbreviato.*

T. stipes nearly glabrous, the orifice of the peridium very short.

TULOSTOMA brumale, *Pers. Disp. Meth. Fung.* p. 6.—*Syn. Fung.* p. 139.—*Alb. et Schwein.* p. 79.—*De Cand. Fl. Franç.* v. 2. p. 269.—*Ejusd. Syn.* p. 56.—*Nees, Syst.* t. 12. f. 130.—*Mart. Fl. Crypt. Erl.* p. 388.—*Moug. et Nestl. St. Exsicc.* No. 387.—*Schwein. Fung. Carol.* No. 335.—*Wahl. Fl. Lapp.* p. 1024.

LYCOPERDON pedunculatum, *Linn. Sp. Pl.* p. 1654.—*Fl. Suec.* No. 1276.—*Batsch, Elench. Fung*, p. 123. t. 29. f. 167.—*Bull. Champ.* p. 161. t. 294. et t. 471. f. 2.—*With. Bot. Arr.* v. 4. p. 451.—*Sow. Fung.* t. 406.

HAB. On walls and dry stony banks. Autumn. Generally rare, but not unfrequent in the neighbourhood of London. On the walls of Hyde Park, and on a wall near the Half-way House to Greenwich, Mr SOWERBY. Norfolk, Dr SUTTON.

Plant one inch to one inch and a half high, and of a brownish colour. *Stipes* about one-eighth of an inch thick, erect, nearly glabrous, except at the top, where it is somewhat scaly, firm, solid, or with a cavity filled with a fibrous pith. *Head* globose, nearly half an inch in diameter, at first brown, but the outer peridium falling insensibly away, leaves the inner, membranaceous, permanent peridium of a grey colour, and smooth surface. *Orifice* exactly at the summit, circular, about a line in breadth, with a short, erect, cartilaginous margin. The interior of the peridium is filled with a mass of fine woolly *filaments*, and minute globose reddish *sporidia*. The filaments arise from the inner periphery of the peridium.

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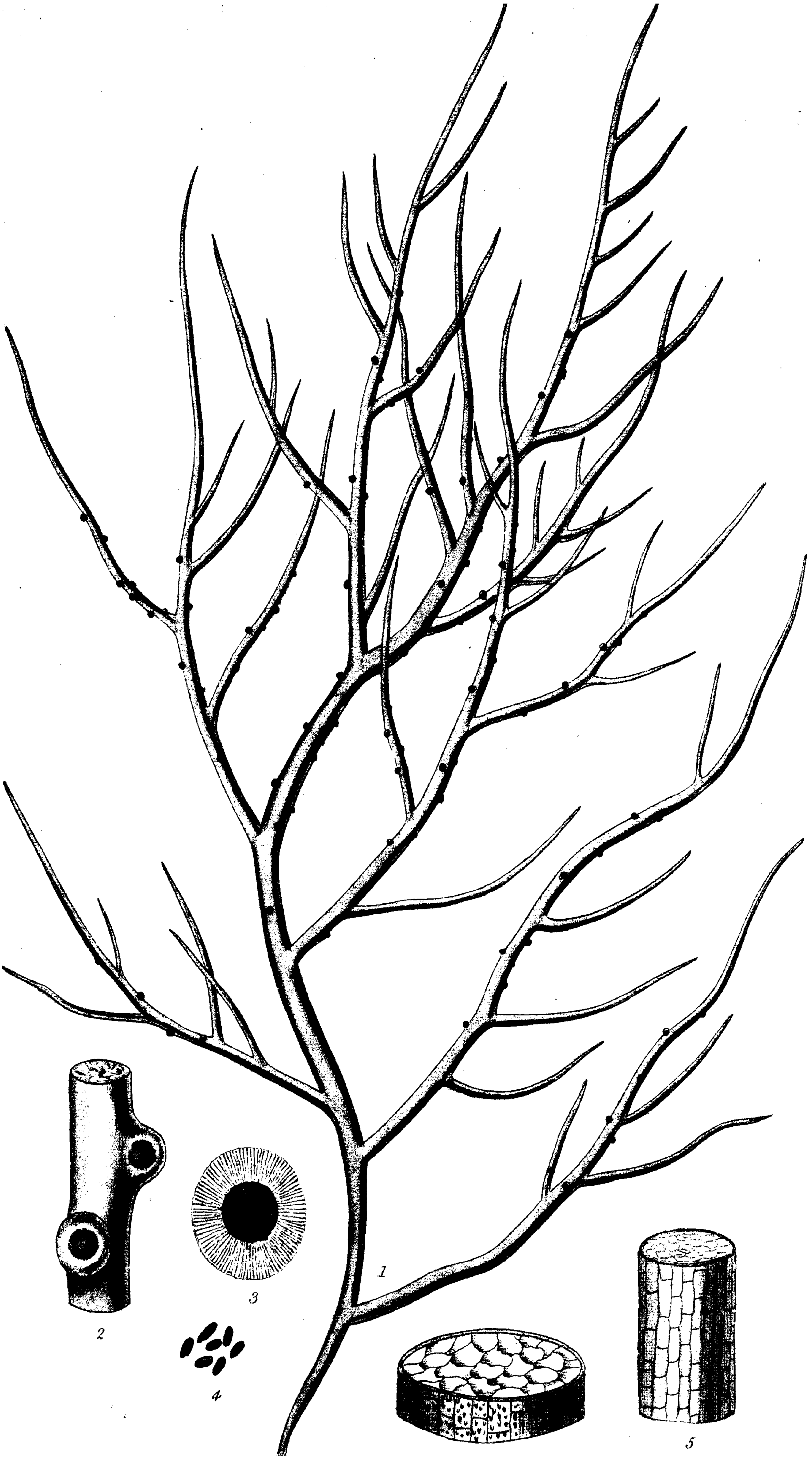
As this work is not destined to be completed according to the plan originally intended, I shall venture to introduce a few plants from the more southern parts of the kingdom, in order to illustrate some genera not hitherto noticed in Scotland. One of these forms the subject of the present description; and though not to my knowledge found even in England to the northward of the midland counties, yet, as it enters into the floras of Norway, Sweden and Lapland, there is every reason to conclude that it inhabits of every part of our island.

The systematic situation of *Tulostoma* is near *Geastrum* and *Lycoperdon*; and if WAHLENBERG be correct in saying that traces of a volva are sometimes to be observed at the root, its affinity to *Geastrum* becomes, as he observes, very near indeed. From the whole of the suborder *Lycoperdinei*, it is distinguished by its regular, marginated orifice.

DE CANDOLLE has considered *T. squarrosum* of PERSOON as a variety of *T. brumale*; but, judging from MICHELI's representation (t. 97. f. 7.), I am inclined to think it a well-marked species.

Fig. 1. *T. brumale.* Fig. 2. *A section,* natural size. Fig. 3. *Portion of the peridium, with the filaments springing from the inner surface.* Fig. 4. *Filaments and sporidia;* magnified.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SPHÆROCOCCUS LICHENOIDES.

Gelatinous Sphærococcus.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss.*

GENERIC CHARACTER.

Frons varia (plana compressa vel cylindrica). Fructus capsulæ sphæricæ nucleo globoso sporidiorum.

Frond various (plane, compressed or cylindrical). Fructification: spherical capsules, containing a globular nucleus of seeds.

SPECIFIC CHARACTER.

SPHÆROCOCCUS lichenoides; *fronde gelatinosa, filiformi, vage ramosa, ramis patentibus subfastigiatis, acuminatis, tuberculis hemisphæricis sparsis.*

S. frond gelatinous, filiform, irregularly branched, the branches spreading, subfastigiate, acuminated: tubercles hemispherical, scattered.

SPHÆROCOCCUS lichenoides, *Ag. Sp. Alg.* v. 1. p. 309.—*Syst. Alg.* p. 233.
FUCUS lichenoides, *Herb. Linn.*—*Turn. Hist. Fuc.* t. 118.—*Esper. Fuc.* t. 50. *sec. specim. in Herb. Mertensii, fide Ag.*
FUCUS edulis, *Gmel. Fuc.* p. 113.
FUCUS edulis, ramis, &c. *Rumph. Amb.* v. 6. p. 181. t. 76. A,-C. et t. 74. f. 3. *fide Agardh.*
PLOCARIA candida, *Nees, in Hor. Berol.* t. 6. *fide Agardh.*

HAB. In the sea. Sidmouth, Devonshire; August. Mrs GRIFFITHS.

Root a small conical disk. *Fronds* aggregate, of a red colour, 6–12 inches in height, varying in thickness from the diameter of a crow's quill to twice or thrice that size, cylindrical, attenuated at the base and summit, irregularly branched even from the base, the branches more or less numerous, spreading, attenuated towards their extremity, and bearing others again in an alternate or somewhat secund manner, these last being also often subdivided. The *fructification* consists of hemispherical tubercles, smaller than turnip-seed, scattered over every part of the frond, and containing a globose mass of very minute, red, oval-oblong seeds.

The *substance* is tender and gelatinous when recent, and, according to Mrs GRIFFITHS, easily injured, unless carefully handled. The interior is composed of a large cellular tissue, filled with gelatinous fluid. The exterior is also reticulated, though not at once perceptible. After having been once dried, the frond, when moistened, is tenacious, and somewhat flaccid.

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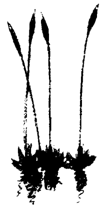
The discovery on the British shore of an Alga hitherto known only to exist in the seas of India, must have a singular interest in the eyes of every British botanist. Luxuriant specimens, and these, too, in the most perfect state of fructification, have been communicated to me, correctly named, by my kind friend Mrs GRIFFITHS, who finds it abundantly near Sidmouth. The specimens were also accompanied by a very faithful drawing from the pencil of Miss GRIFFITHS. It is thrown ashore in so uninjured a state, that it must be an inhabitant of the deep water at no great distance from the Chit Rocks. Mrs GRIFFITHS further informs me, that she discovered the same plant as long ago as the year 1813, but at that period did not refer it with certainty to any known species.

Like *Sphærococcus confervoides*, to one variety of which Mr DAWSON TURNER considers *S. lichenoides* nearly allied, it probably varies exceedingly in its mode and degree of ramification, and in other appearances of the frond. The specimens communicated to me by Professor AGARDH, are as slender as Mr TURNER's var. β, and, like the variety *procerrimus* of *S. confervoides*, are almost simple. These were gathered in the island of Manilla. Some of the individuals forwarded to me by Mrs GRIFFITHS have the branches decidedly fastigiate; others not at all. From every state of *S. confervoides*, however, it is distinguished by its moist gelatinous substance, and reticulated structure.

In the east, this species is brought to the table, especially in Ceylon, and the neighbouring parts of India; and it has even been conjectured that the celebrated edible swallow-nests of the Chinese may be composed of this or some similar marine plant.

Fig. 1. *S. lichenoides*, natural size. Fig. 2. *Portion of the frond, with tubercles.* Fig. 3. *A tubercle divided.* Fig. 4. *Seeds.* Fig. 5. *Portion of the frond, to show the reticulated structure.* Fig. 6. *Transverse slice of the frond, to show the internal cellular mass, turgid with gelatinous fluid:*—magnified.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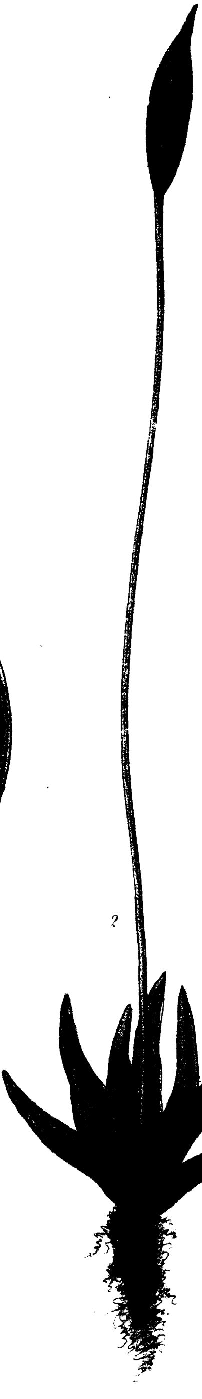
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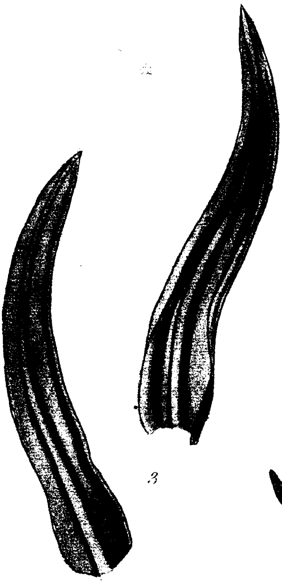
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TORTULA RIGIDA.

Rigid-leaved Screw-Moss.

CLASS AND ORDER CRYPTOGAMIA MUSCI, *Linn.*—NAT. ORD. *MUSCI, Juss.*

GENERIC CHARACTER.

Seta terminalis. Peristomium simplex e dentibus 32 spiraliter tortis ad basin magis minusve in membranam tubiformem unitis, vel liberis. Calyptra dimidiata.

Fruitstalk terminal. Peristome simple, of 32 spirally twisted teeth, either free, or united more or less at the base into a tube. Calyptra dimidiate.

SPECIFIC CHARACTER.

TORTULA rigida; *caule brevissimo, foliis paucis, linearibus, incurvis, submucronulatis, canaliculatis, nervosis, rigidis, marginibus involutis, theca oblonga, operculo rostrato, subdimidio breviore.*

T. stem very short; leaves few, linear, incurved, submucronulate, canaliculate, nerved, rigid, the margins involute; capsule oblong, the lid rostrate, nearly half as long as the capsule.

TORTULA rigida, *Turn. Musc. Hib.* p. 43.??—*Hook. et Tayl. Musc. Brit.* p. 30. t. 12. ed. 2da, p. 53.—*Hobs. Brit. Mosses,* v. 1.—*Hook. et Grev. in Edinb. Journ. of Science,* v. 1. p. 289.—*Arn. Disp. Musc.* p. 37.
TRICHOSTOMUM aloides, *Koch. in Moug. et Nestl. St. Exsicc.* No. 717.
BRYUM rigidum, *Huds. Fl. Angl.* p. 477.—*Dill. Musc.* p. 388. t. 49. f. 55.

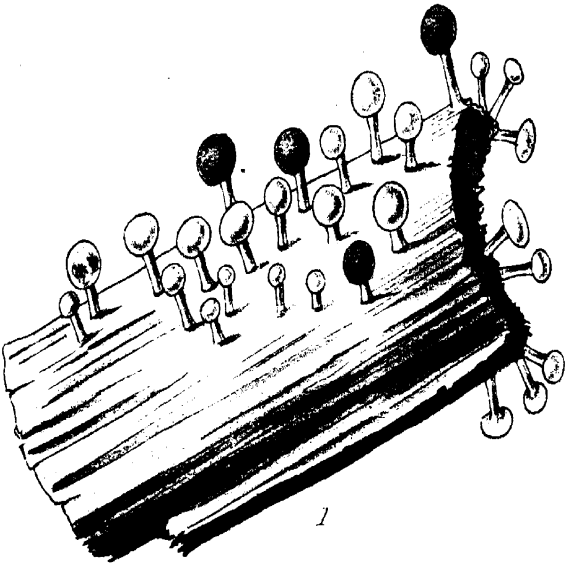
HAB. Upon stiff clay banks in various parts of England. The stations given in Muscologia Britannica, are near Yarmouth, and at Henfield. It is not unfrequent in Devonshire, especially about Babbacome and Torquay.

Somewhat tufted. *Stems* very short, or scarcely any. *Leaves* rigid, dark lurid green, few, spreading, linear, mostly tipped with a short point, incurved, involute at the margin, furnished with a strong broad nerve. *Fruitstalk* about three-fourths of an inch in height, slender, yellowish or red. *Capsule* oblong, red, the *lid* rostrate, rather less than half the length of the capsule. *Peristome* with the teeth twisted, but not so decidedly as in the other species.

This moss,—the real *Tortula rigida,*—the *Bryum rigidum* of HUDSON, and the plant we apprehend figured by DIL-

LENIUS at t. 49. f. 55, I am willing to admit into the present publication, on account of another species having been given under the same name in " English Botany." The latter, which is the *Barbula rigida* of HEDWIG, is completely destitute of nerve, and is named by Dr HOOKER and myself, in our monograph of the genus, *Tortula enervis.* This and *Tortula brevirostris,* figured at t. 331. of this work, form the *Tortula rigida* of the continental botanists; and it is not therefore surprising that they should think us erroneous in attributing a nerve to the species now under consideration, which we regard as the true individual.

Fig. 1. *T. rigida,* natural size. Fig. 2. *A plant.* Fig. 3. *Leaves.* Fig. 4. *Peristome;* magnified.



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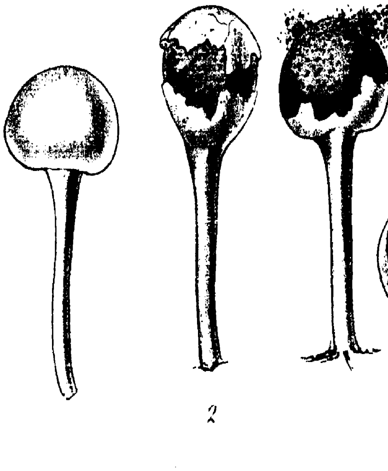

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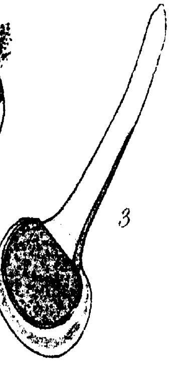

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ONYGENA EQUINA.

Common Onygena.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *GASTROMYCI, Link.*

GENERIC CHARACTER.

Peridium rotundatum, simplex, e floccis contextis irregulariter secedens. Sporidia conglobata, cohærentia.

Peridium roundish, simple, composed of interwoven flocci, irregularly deciduous. Sporidia conglobated, cohering.

SPECIFIC CHARACTER.

ONYGENA equina; *gregaria, alba, peridio globoso-depresso, sporidia ferruginea.*

O. gregarious, white, peridium globoso-depressed, the sporidia ferrugineous.

ONYGENA equina, *Pers. Obs. Myc.* 2. p. 71. t. 6. f. 3. a, b, c.—*Syn. Fung.* p. 203.—*Alb. et Schwein.* p. 113.—*Nees, Syst.* t. 10. f. 121.—*Mart. Fl. Erlang.* p. 383.—*Schwein. Fung. Carol.* No. 428.

LYCOPERDON equinum, *Willd. Fl. Berol.* p. 412. f. 20.—*With. Bot. Arr.* v. 4. p. 450.—*Sow. Fung.* t. 292.

LICHEN byssoides, var. β, *Huds. Fl. Angl.* p. 528.

FUNGI parvi, globosi, ex ungue equino putrescente enati, *Ray, Syn.* p. 13.

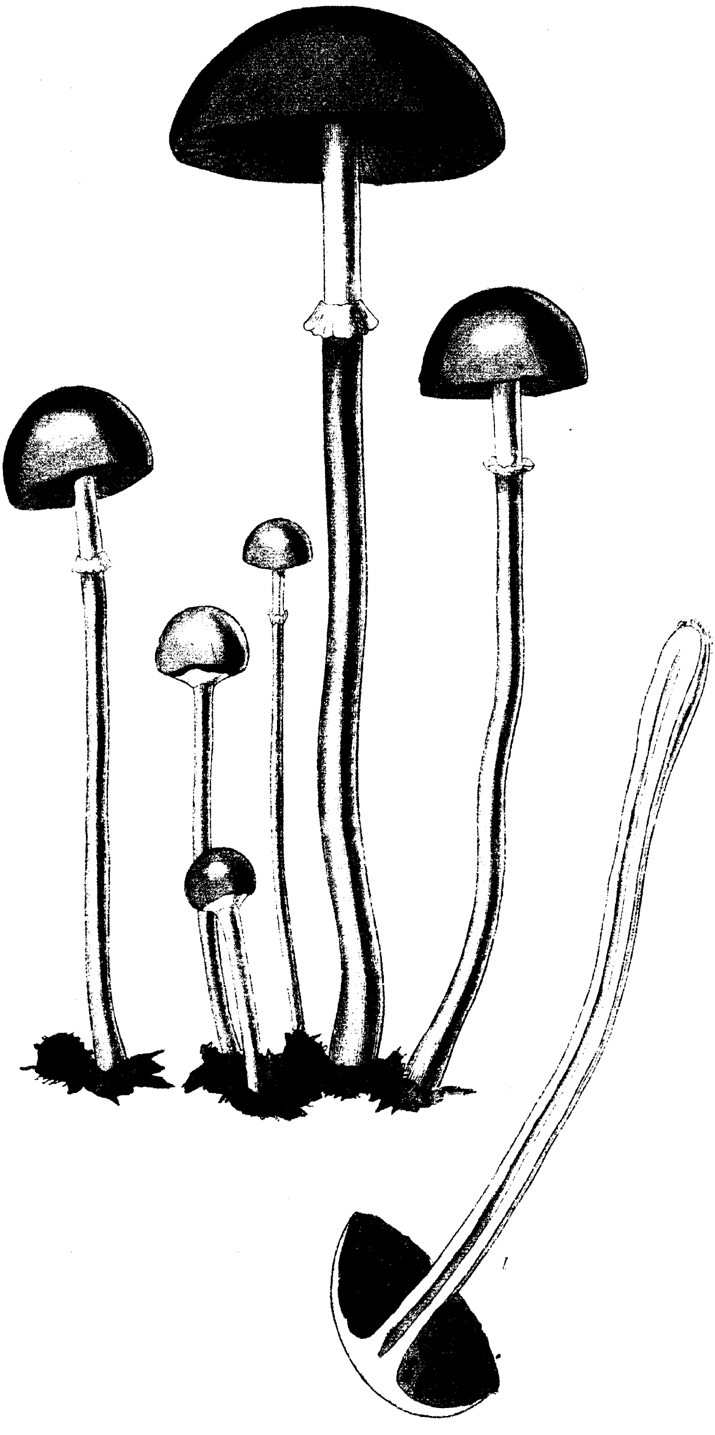
HAB. On the putrefying hoofs of the horse; the hoofs and horns of the ox, and other animals; rare. Autumn.

Gregarious, white, two lines to a quarter of an inch high. *Stipes* firm, thick, solid. *Head* globose, often flattened or depressed, one to near two lines in diameter. *Peridium* white, somewhat pulverulent, or, appearing rather like a delicate white crust than a membrane, at length bursting and falling off irregularly, leaving the mass of pale reddish-brown, globose-ovate, pellucid sporidia, retaining its round form for a long time, in consequence of some adhesion between the sporidia themselves, though unaccompanied by filaments.

Being anxious to illustrate this genus before the termination of the work, I have been obliged to resort for that purpose to the English flora. Even in England, *Onygena equina* is a rare plant, which is partly accounted for from the singularity of its actual station. Four species only are published; but I have received a fifth named *O. faginea* from my friend M. FRIES.

The most remarkable feature in the genus is the structure of the peridium, which is partly fibrous and partly crustaceous, and the somewhat permanent compactness of the mass of sporidia, which require the influence of the atmosphere for their dispersion.

Fig. 1. *O. equina,* natural size. Fig. 2. *Plants in different stages.* Fig. 3. *A plant divided.* Fig. 4. *Sporidia;* magnified.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AGARICUS SEMIGLOBATUS.

Hemispherical glutinous Agaric.

Class and Order CRYPTOGAMIA FUNGI, *Linn.*—Nat. Ord. *FUNGI*, *Link.* Series V. Trib. XXXII. Psalliota, *Fries.*

GENERIC CHARACTER.

Pileus stipitatus aut latere affixus, subtus lamellis sporidiferis, rectis, simplicibus. Volva nulla.

Pileus furnished with a stipes, or fixed by its side: bearing on the under surface straight, simple, sporidiferous lamellæ. Volva none.

SPECIFIC CHARACTER.

Agaricus semiglobatus; *pileo hemisphærico, lævi, viscoso, flavo, lamellis horizontaliter adnatis, nigro-nebulosis, stipite fistuloso, glabro, annulato.*

Ag. pileus hemispherical, even, glutinous, yellow; lamellæ fixed horizontally to the stipes, mottled with black; stipes hollow, glabrous, furnished with a ring.

Agaricus semiglobatus, *Batsch, Fung.* p. 141. t. 21. f. 110.—*Sow. Fung.* t. 248.—*Pers. Syn. Fung.* p. 407.—*Alb. et. Schwein.* p. 201.—*With. Bot. Arr.* v. 4. p. 330.—*Hook. in Fl. Lond.* ed. 2. *cum ic.*—*Hook. Fl. Scot.* Pt. 2. p. 23.—*Relh. Fl. Cantab.* p. 536.—*Schwein. Fung. Carol.* No. 710.—*Grev. Fl. Edin.* p. 391.—*Fries, Syst. Myc.* v. 1. p. 391.

Agaricus glutinosus, *Curt. Fl. Lond.* v. 1. t. 144.

Agaricus nitens, *Bull. Champ.* t. 566. f. 4. *certè sed non* t. 84.

Agaricus præcox, *Schum. Fl. Sæll.* p. 315.

Agaricus virosus, *Sow. Fung.* t. 407. f. 3, 4, 5. et t. 408. f. 12, 13, 14. *et forsan,* f. 2. 4.—*Purt. Midl. Fl.* v. 2. p. 646.

Fungus minor ex albido subluteus pileo hemisphærico, *Ray, Hist. Pl.* v. 2. p. 97.

Hab. Pastures, meadows and woods, especially on dung or near it, very common from May to November.

Solitary or gregarious. *Stipes* 3–6 inches high, 2–3 lines thick, pale yellowish, hollow, more or less crooked, somewhat incrassated at the base, firm, glutinous, furnished with a ring, and generally dotted with black immediately beneath the pileus. *Pileus* half an inch to one inch and a half in breadth, exactly hemispherical, rarely becoming in large specimens plano-convex, yellow or pale reddish-orange, very shining, and smooth, the *flesh* thin and white. *Lamellæ* rather numerous, broad, fixed, horizontal (extending in a straight line, or nearly so, from the margin of the pileus to the stipes), beautifully mottled with the purplish-black *sporidia.*

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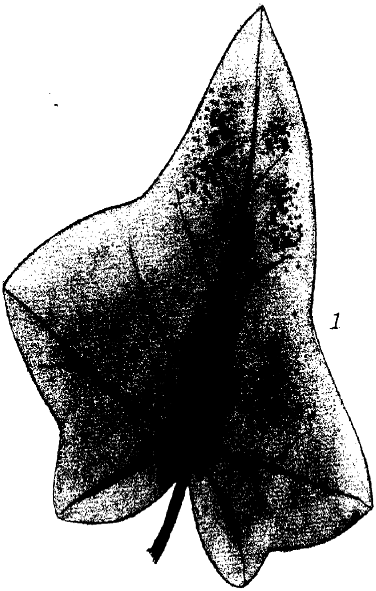
No species of Agaric can be more common than the present one, in every part of the kingdom; so much so, that it is scarcely possible to take a walk in the country without perceiving it; and yet, singular as it may seem, it has been either so overlooked, or so indifferently described by most of the older authors, that the greatest uncertainty for a long time existed in regard to it. We have quoted RAY, however, with some confidence. BULLIARD has given two plates of what he calls *Agaric lustré*, one of which is certainly correct, the other as certainly incorrect. BATSCH's figure is correct, though done from under-sized specimens. The illustration in "Flora Londinensis" by CURTIS, is really characteristic of one state of the plant, but miserably executed. As to SOWERBY, t. 248. is excellent, excluding figs. 1, 2, 3, which are another species; and the two additional plates in the Supplement are also filled with figures for the most part belonging to other species. With a laudable wish to prevent any one mistaking this fungus for other harmless ones, the last-mentioned author changed the name to *virosus*, forgetting that the lower classes, most liable to fall victims to such an error, were scarcely likely to study mycology, or know the meaning of Latin names. After all, it is still doubtful whether *A. semiglobatus* be really poisonous or not; for Mr SOWERBY states, that it was the variety with the pointed pileus (t. 248. figs. 1, 2, 3.) which nearly proved fatal to a poor family in the neighbourhood of London, and it is certain that the variety he alludes to is a totally different plant from the other figures on the same plate.

Fig. 1. *A section of a plant,* natural size.



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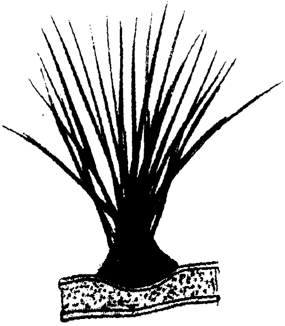

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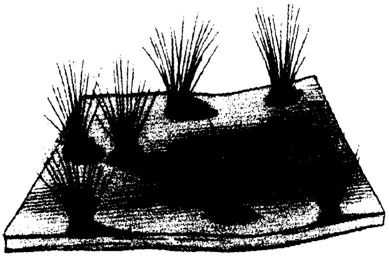

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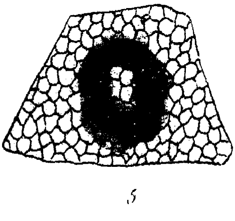

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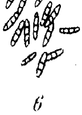

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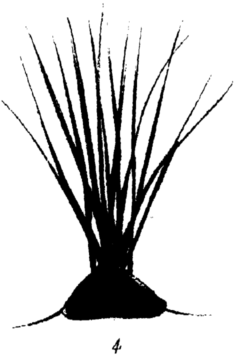

4

VERMICULARIA TRICHELLA.

Minute hairy Vermicularia.

CLASS AND ORDER CRYPTOGAMIA FUNGI, *Linn.*—NAT. ORD. *HYPOXYLA*, *De Cand.*

GENERIC CHARACTER.

Perithecium depressum, astomum, lacerato-dehiscens. Asci vel sporidia annulati, vermiculati.

Perithecium depressed, destitute of orifice, bursting irregularly. Asci or sporidia annulate, vermiculate.

SPECIFIC CHARACTER.

VERMICULARIA trichella; *sparsa, minima: peritheciis astomis depresso-ovatis, nigris, pilis longissimis divergentibus vertice obsessis.*

V. scattered, very minute: perithecia mouthless, depressed, ovate, black, the summit covered with very long diverging hairs.

VERMICULARIA trichella, *Fries,* MSS.
SPHÆRIA trichella, *Fries, Obs. Mycol.* 2. p. 332.—*Vet. Ac. Handl.* 1817, p. 256. *Scler. Suec.* No. 203.—*Syst. Myc.* v. 2. p. 515.
SPHÆRIA Dematium, β, *Pers. Syn. Fung.* p. 88.

HAB. On the dead leaves of the Ivy *(Hedera Helix)*, and other plants, in autumn and spring. Near Foxhall, Edinburgh.

Very minute, scattered, but usually occurring in great numbers on the same leaf. *Perithecia* black, depressed-ovate, without any orifice, but bearing on the summit a tuft of very long, diverging, slender black hairs; the perithecia are not immersed in the substance of the leaf, but appear to originate beneath the true epidermis only. *Sporidia* linear-oblong, with several divisions.

A plant already figured in this work, the *Cryptosphæria capillata* (*Sphæria phæocomes*, FRIES), also belongs to the genus now adopted,—defined for the first time in the "Systema Orbis Vegetabilis." It contains, besides, the *Sphæria comata, capillata,* and *Dematium,*—all distinguished by a

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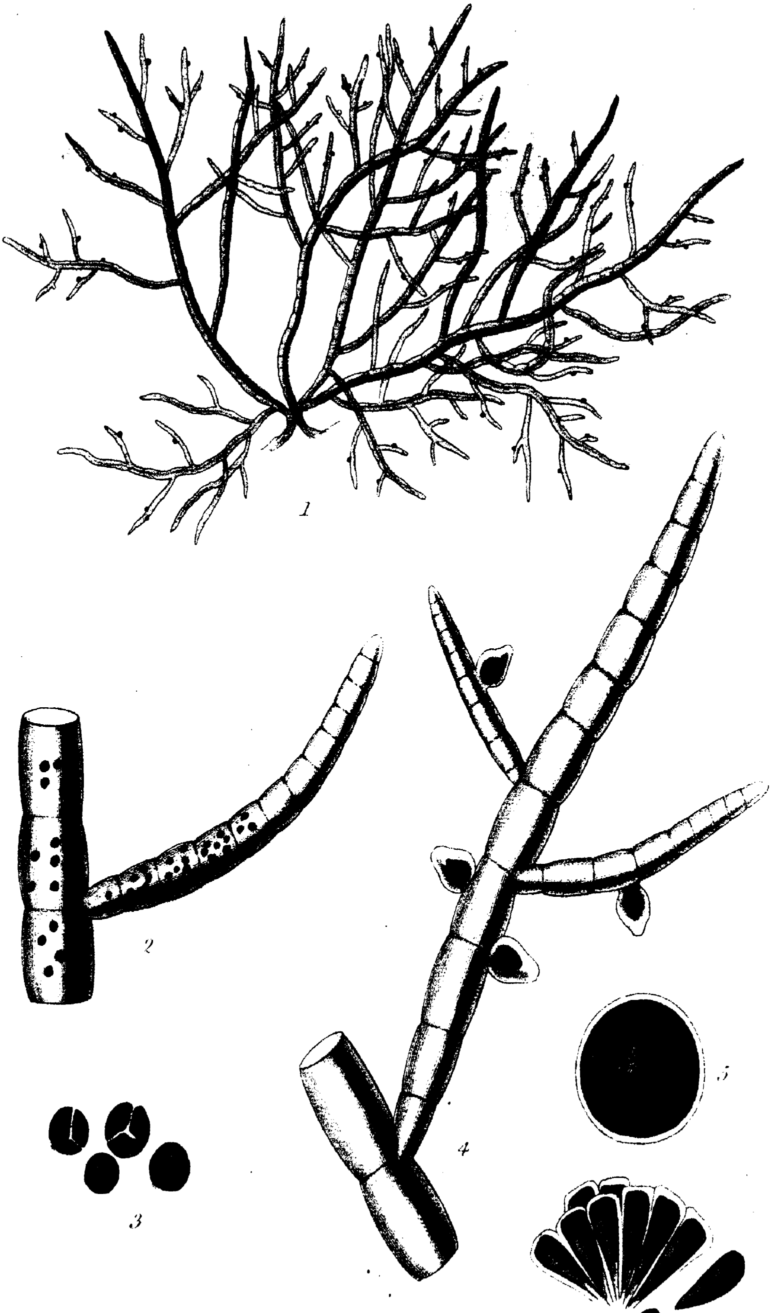
mouthless perithecium, a terminating tuft of hairs, and annulate sporidia.

Fig. 1. *V. trichella,* natural size. Fig. 2. *Plants.* Fig. 3. *A plant, to show its superficial situation.* Fig. 4. *A perithecium divided.* Fig. 5. *A portion of the upper lamina of the leaf, viewed on its internal or parenchymous surface, to show that the perithecium does not penetrate the cellular structure.* Fig. 6. *Sporidia;* magnified.



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CHONDRIA PARVULA.

Small Chondria.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss. De Cand. &c.*

GENERIC CHARACTER.

Frons cartilaginea (filiformis, ramentis subclavatis sæpe obsita). Fructus duplex: capsulæ sporidiis pyriformibus pedicellatis, et globuli sporidiorum ternorum immersi.—AG.

Frond cartilaginous (filiform and often set with subclavate ramuli). Fructification double: capsules containing stalked pyriform sporidia, and immersed globules of ternate sporidia.

SPECIFIC CHARACTER.

CHONDRIA parvula; *fronde filiformi, articulata, ramis sparsis, intricatis, articulis diametro æqualibus, capsulis ovatis.*

C. frond filiform, jointed, the branches scattered, entangled, joints equal in length and breadth, capsules ovate.

CHONDRIA parvula, *Ag. Syst. Alg.* p. 207.

FUCUS kaliformis, var. γ, nanus, *Turn. Hist. Fuc.* p. 61.

HAB. In the sea. On the shores of Devonshire, at Torquay, Sidmouth, &c. producing fructification in July, August, and September, Mrs GRIFFITHS. At Brighton among rejectamenta, Mr BORRER.

Plant growing on other marine algæ in tufts, about three inches long. *Fronds* branched, entangled, and, as it were, here and there growing into one another, of a pale red colour, divided by real dissepiments into joints about equal in length and breadth, though the former sometimes exceeds the latter; *branches* irregular, scattered, spreading, obtuse, bearing smaller ones equally irregular. *Fructification* red ternate sporidia imbedded in the substance of the branches, and ovate capsules contracted at their base, containing a nucleus of red, oblong-cuneiform sporidia.

This *alga* was described by Mr DAWSON TURNER as a variety of *Chondria kaliformis;* but he justly observes, " that it is a most remarkable variety, and might easily be taken for a distinct species." To this rank it has been raised by AGARDH

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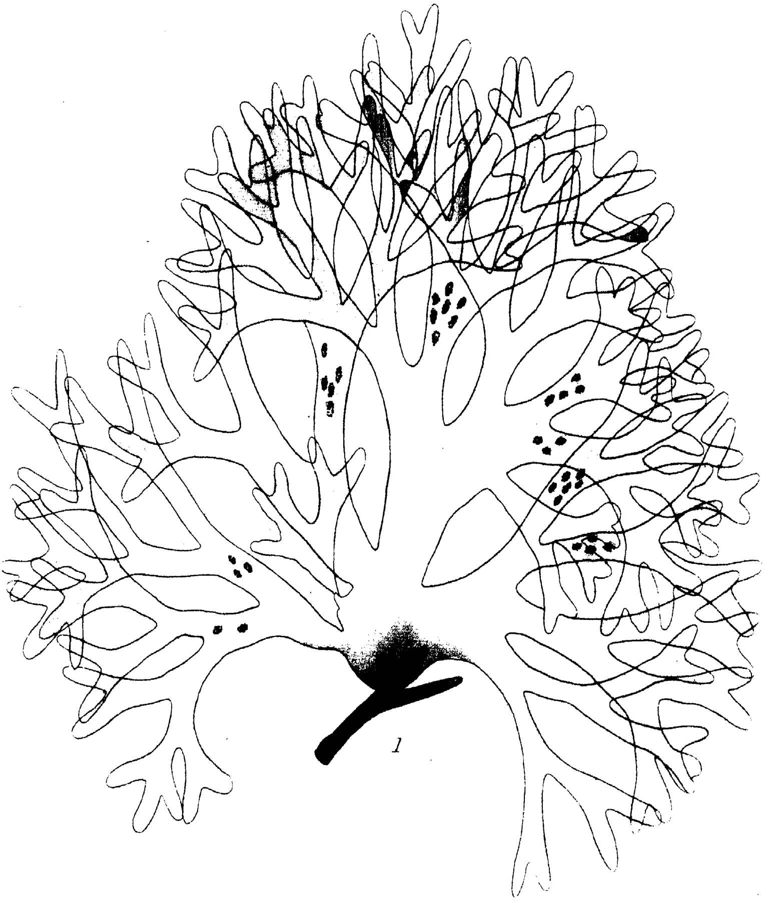
in his Systema Algarum; and it must be confessed it seems fully entitled to it. As the last-mentioned author has not taken the capsules into his specific character, it is probable he is not acquainted with them; for they form in reality an excellent discriminating character, being of a decidedly ovate form, contracted at the base; whereas, in *Chondria kaliformis* they are globoso-hemispherical. The fructification in the latter species precedes that of *C. parvula* by nearly a month. I am informed by Mrs GRIFFITHS, to whom I am indebted for beautiful specimens, that the tufts are frequently so matted and entangled that it is impossible to separate the fronds from one another.

Fig. 1. *C. parvula;* natural size. Fig. 2. *Portion of a frond, with imbedded sporidia.* Fig. 3. *The ternate sporidia.* Fig. 4. *Portion of a frond, with capsules.* Fig. 5. *Nucleus of sporidia removed from a capsule.* Fig. 6. *Sporidia;* magnified.



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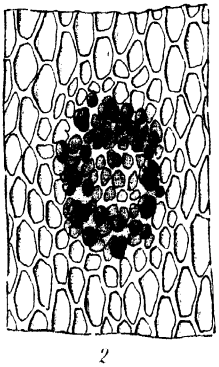

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3

DELESSERIA OCELLATA.

Delicate linear Delesseria.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss. De Cand.*

GENERIC CHARACTER.

Frons membranacea, (stipitata vel acaulis, foliacea vel laminosa, rarissime filiformis). Fructus duplex : capsulæ et sori sporidiis ternis.—AG.

Frond membranaceous (stipitate or sessile, foliaceous or simply expanded, very rarely filiform). Fructification double; capsules and sori of ternate sporidia.

SPECIFIC CHARACTER.

DELESSERIA ocellata; *fronde tenuissima, avenia, ad basin fere fissa, segmentis divaricatis, sublinearibus, dichotomis, obtusis, soris in segmentis.*

D. frond very thin, veinless, divided nearly to the base, segments divaricated, nearly linear, dichotomous, obtuse, sori in the segments.

DELESSÉRIA ocellata; *Lamouroux, Ess.* p. 38.—*Ag. Sp. Alg.* v. 1. p. 187.—*Syst. Alg.* p. 252.

WORMSKIOLDIA ocellata, *Spreng. Sp. Pl.* v. 4. p. 331.

FUCUS ocellatus, *Lamour. Diss.* t. 32.

FUCUS granateus, *Lamour. Diss.* t. 33. f. 3, 4.

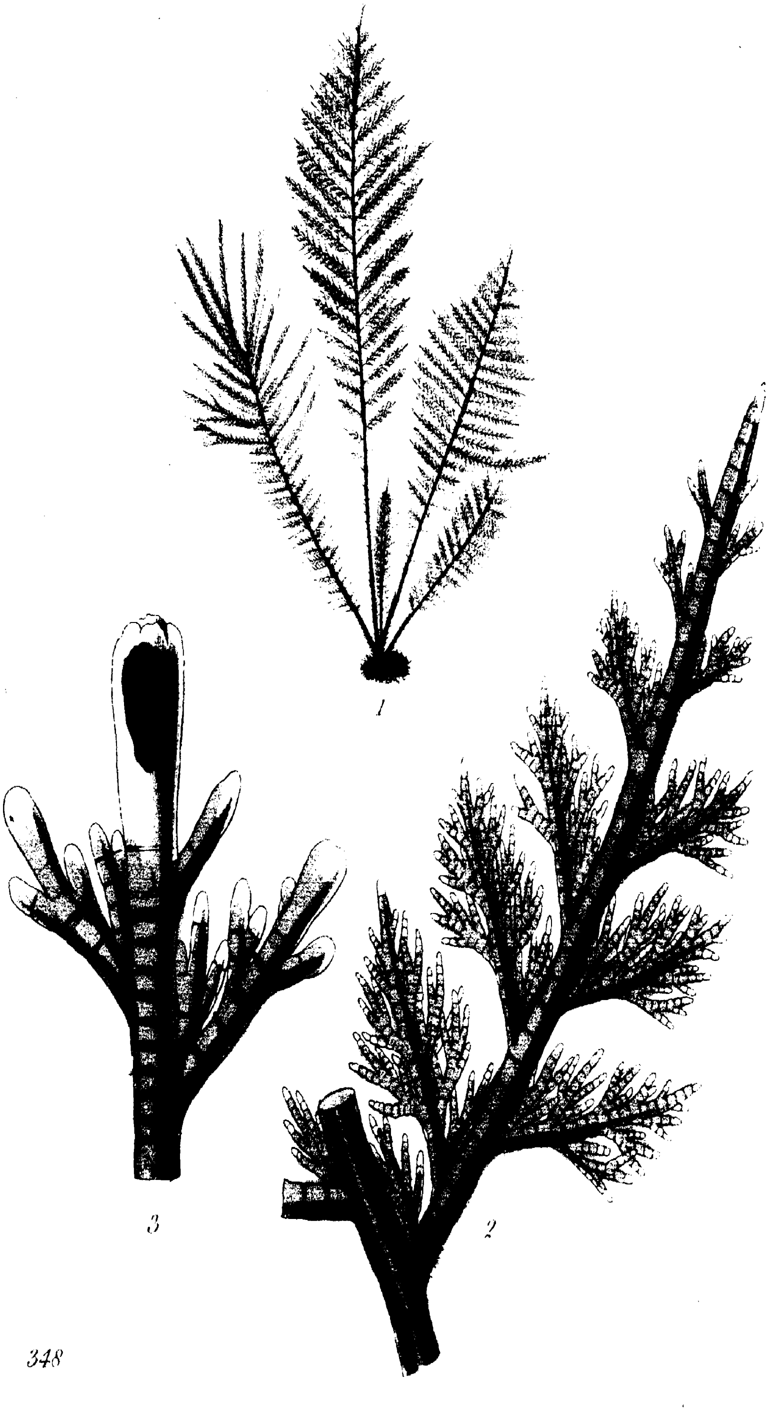
HAB. Sea-shores in the south-west of England. Torquay and Budleigh, in fructification from June to October, but found in a young state as early as March; Mrs GRIFFITHS.

Root extremely minute, scutate. *Frond* exceedingly thin and delicate, perfectly sessile, of a beautiful pink colour, from 2 to 5 inches in length. In its general outline, the frond has a tendency to become round, or rather reniform: it is cleft nearly to the very base, where, previous to division, it rarely is more than half an inch in breadth; the primary segments vary from two lines to half an inch in breadth, and are repeatedly divided, mostly in a dichotomous manner, becoming slightly narrower after each division. The inferior divisions are more or less dilated upwards, but the remainder are more or less linear, and all are divaricated; at the extremities they are obtuse, and frequently not more than a line broad. *Substance* finely reticulated. *Sori* generally situated on some of the central divisions of the frond, oval, somewhat vacant in the centre, so that the ternate *sporidia* appear to form a circle.

Mr DAWSON TURNER, in his observations upon *Fucus ulvoides* (Hist. Fuc. t. 80.), mentions a plant very similar in texture to *F. punctatus* and *F. ulvoides*, which he received from Miss HUTCHINS and Mr BRODIE: it was without fructification; but he remarks, "the whole frond is not above three inches long, and every where dichotomous, with linear segments about four lines wide." I cannot for a moment doubt, that the plant thus alluded to, belonged to the species now described, and it is therefore out of my power to name the individual who was fortunate enough in the first instance to add so beautiful a plant to the British Flora.

From my kind friend Mrs GRIFFITHS I have received so many and such perfect specimens, that it is my own fault if I have not given a characteristic representation and faithful description of the species. She has long maintained its right to be regarded as distinct from all its British congeners; and specimens communicated to Professor AGARDH, were pronounced by him to agree in all respects with his *Delesseria ocellata.* It requires nice discrimination to distinguish between *Delesseria punctata* and its allies. Even Mr TURNER, with all his experience and accuracy, honestly confesses the difficulty of drawing up characters to separate them, from dried specimens. So far only have I any advantage over that excellent naturalist—I have seen the subject of the present description in a growing state, and gathered it near Torquay. Were I to venture to bring forward characters sufficient to remove it from *D. punctata*, I would fix upon the deeply cleft frond, and the uniform divarication of the linear segments, which moreover divide more regularly throughout the whole frond than they ever do in *D. punctata.* The situation of the sori does not seem to offer any character of importance; for in *D. punctata* they occupy every part of the frond in all my specimens, and in *D. ocellata* it is hard to say whether they are confined to the central divisions of the frond, where I have only observed them. The capsular mode of fructification I find mentioned by LAMOUROUX, who figures the capsules as hemispherical at first, with a rather acute point, afterwards nearly globose, with a wide toothed orifice; but his representation is rather rude, and is probably not perfectly correct.

Fig. 1. *D. ocellata*, natural size. Fig. 2. *A portion of the frond with a sorus.* Fig. 3. *Sporidia;* magnified.



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SPHACELLARIA HYPNOIDES.

Moss-like Sphacellaria.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss.* *De Cand.*

GENERIC CHARACTER.

Frons filiformis, rigida, articulata, olivacea, ramis distichis vel dichotomis. Sporidia vel apicibus sphacellatis ramorum inclusa vel in capsulis.

Frond filiform, rigid, jointed, olivaceous, with distichous or dichotomous branches. Sporidia either included in the sphacellated extremities of the branches or in capsules.

SPECIFIC CHARACTER.

SPHACELLARIA hypnoides; *caule subramoso, basi filis confervoideis vestito, caulibus vel ramis decomposito-pinnatis, pinnis pinnulisque alternis, confertis, omnibus obtusis, articulis pinnarum diametro æqualibus, estriatis.*

S. stem somewhat branched, clothed at the base with confervoid filaments, stems or branches, several times pinnate, pinnæ and pinnulæ alternate, numerous, all obtuse, the joints of the pinnæ equal in length and breadth, without striæ.

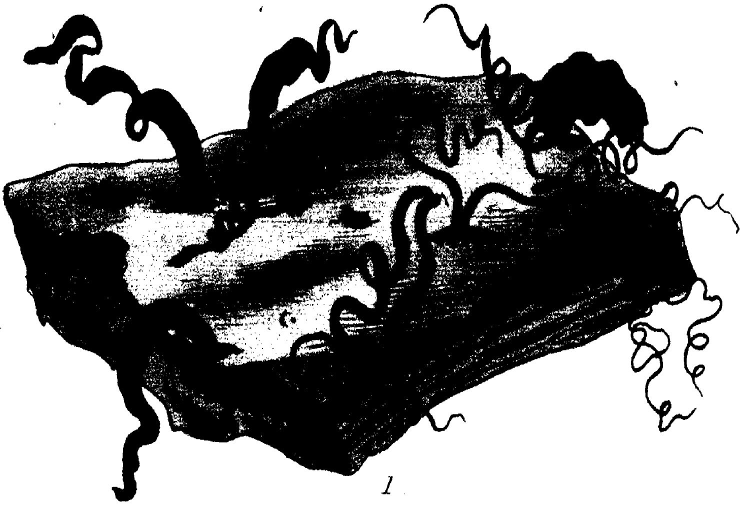
HAB. On rocks in the sea. Ilfracombe in Devonshire, Mrs GRIFFITHS and Mrs HARE.

Plant two to near three inches in height, of a pleasant light green, which at length becomes tinged with brown. *Stems*, several thrown up from a common *base*, the latter, as well as the lower part of the stems, covered with reddish confervoid filaments. The stems are either simple (as represented in the annexed figure), or divided near the base into two or three elongated branches, thickly set along their whole length with linear alternate pinnæ; these are clothed with numerous alternate short pinnulæ, one of which is axillary; the latter, again, have their little branchlets arranged in a similar way, having also an axillary one: the pinnulæ and their subdivisions are all obtuse at their extremity. *Joints* of the stem longer than they are broad, with three faint transverse lines; those of the pinnæ and pinnulæ nearly equal in length and breadth: in none of the joints are dark striæ observable.

It is a matter of regret to me that I have it not in my power to decide who was really the discoverer of this singularly elegant Alga. I only know that it was found on the same coast, both by Mrs GRIFFITHS and Mrs HARE, and that the date attached to the specimens obtained by the former lady is that of May 1823.

There is no other species of *Sphacellaria* so delicate in its appearance as this charming little plant, whose strong resemblance to a finely divided *Hypnum*, suggested the specific name. One of its most striking characters under the microscope, is the axillary branchlet in the pinnæ and the pinnulæ: it thus happens in both cases, that two branchlets are given off from the upper side, before one is given off from the lower side of the pinnæ and pinnulæ. A second remarkable feature is the very obtuse termination of all the subdivisions of the frond; and a third, the absence of the dark-coloured longitudinal *striæ* which are present in the species most nearly related to it.

Fig. 1. *S. hypnoides,* natural size. Fig. 2. *One of the pinnæ near the top.* Fig. 3. *Summit of the stem, or of a primary branch;* magnified.



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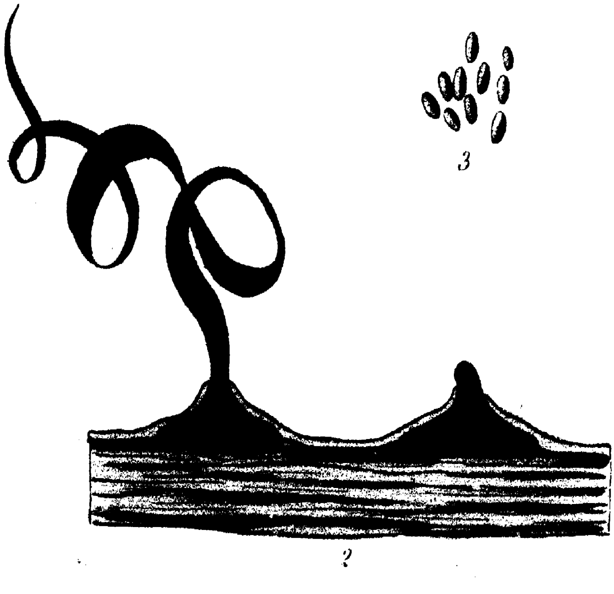

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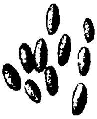

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NÆMASPORA MAGNA.

Large Næmaspora.

Class and Order CRYPTOGAMIA FUNGI, *Linn.*—Nat. Ord. *FUNGI, Juss.*

GENERIC CHARACTER.

Sporidia globosa, minima, simplicia, cum stromate gelatinoso subcellulari conglutinata, cirrhose profluentia.—Fries.

Sporidia globose, minute, simple, adhering to a gelatinous subcellular receptacle, at length escaping in the form of cirrhi.

SPECIFIC CHARACTER.

Næmaspora magna; *aterrima, stromate homogeneo, cirrhis magnis, copiosis, polymorphis, carbonaceis, fragilis, latis incurvisque vel filiformibus et tortuosis.*

N. very black, with a homogeneous receptacle, the cirrhi large, copious, various, carbonaceous, brittle, broad and curved, or filiform and much entangled.

Næmaspora Carpini, *Grev. Fl. Edin.* p. 365.
Sphæria Carpini, *Sow. Fung.* t. 376.—*Purt. Midl. Fl.* v. 3. p. 286.

Hab. On the dead trunks of various trees, throughout the year.

Receptacle or *stroma* produced under the epidermis, black, gelatinous, homogeneous, apparently quite simple, roundish, depressed. The *sporidia* detaching themselves from the stroma, first burst through the epidermis in the form of a little black cone, and then resemble a *Stilbospora;* at length they are protruded in cirrhi of various forms, from half an inch to an inch or more in length, some being broad, thin, and curved, while others are even quite filiform, and much curled and entangled; after exposure to the atmosphere, the cirrhi become very brittle and carbonaceous.

This is the largest species of *Næmaspora* we are acquainted with, and though not of frequent occurrence, is produced occasionally in astonishing abundance. Sowerby observed some trunks of Hornbeam in Hainault Forest in Essex to be nearly covered by it. Mr Purton mentions that Mr. Rufford

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found it on the fallen trunk of a Walnut tree. It occurs, indeed, on so many kinds of trees, that I have ventured to change the specific name given to it by Mr Sowerby, who seems to have considered the plant as peculiar to the Hornbeam.

Fig. 1. *N. magna;* natural size. Fig. 2. *Section of the stroma.* Fig. 3. *Sporidia;* magnified.

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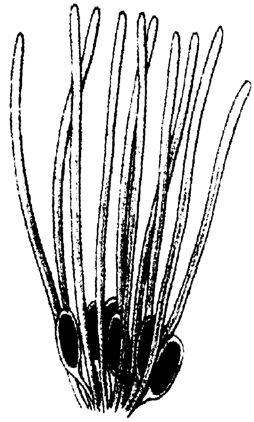

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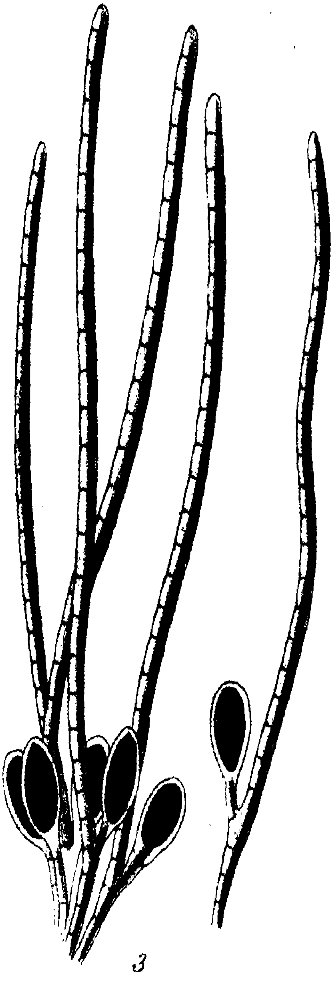

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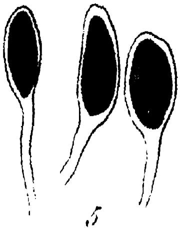


5

SPHACELLARIA VELUTINA.

Velvet Sphacellaria.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss. De Cand. &c.*

GENERIC CHARACTER.

Frons filiformis, rigida, articulata, olivacea, ramis distichis vel dichotomis. Sporidia vel apicibus sphacellatis ramorum inclusa, vel in capsulis.

Frond filiform, rigid, jointed, olivaceous, with distichous or dichotomous branches. Sporidia either included in the sphacellated extremities of the branches, or in capsules.

SPECIFIC CHARACTER.

SPHACELLARIA velutina; *olivacea, effusa, velutina, filis brevissimis, subsimplicibus, erectis, basi capsuliferis, articulis diametro subæqualibus.*

S. olivaceous, spreading, velvet-like, filaments subsimple, erect, very short, bearing capsules at the base, joints about equal in length and breadth.

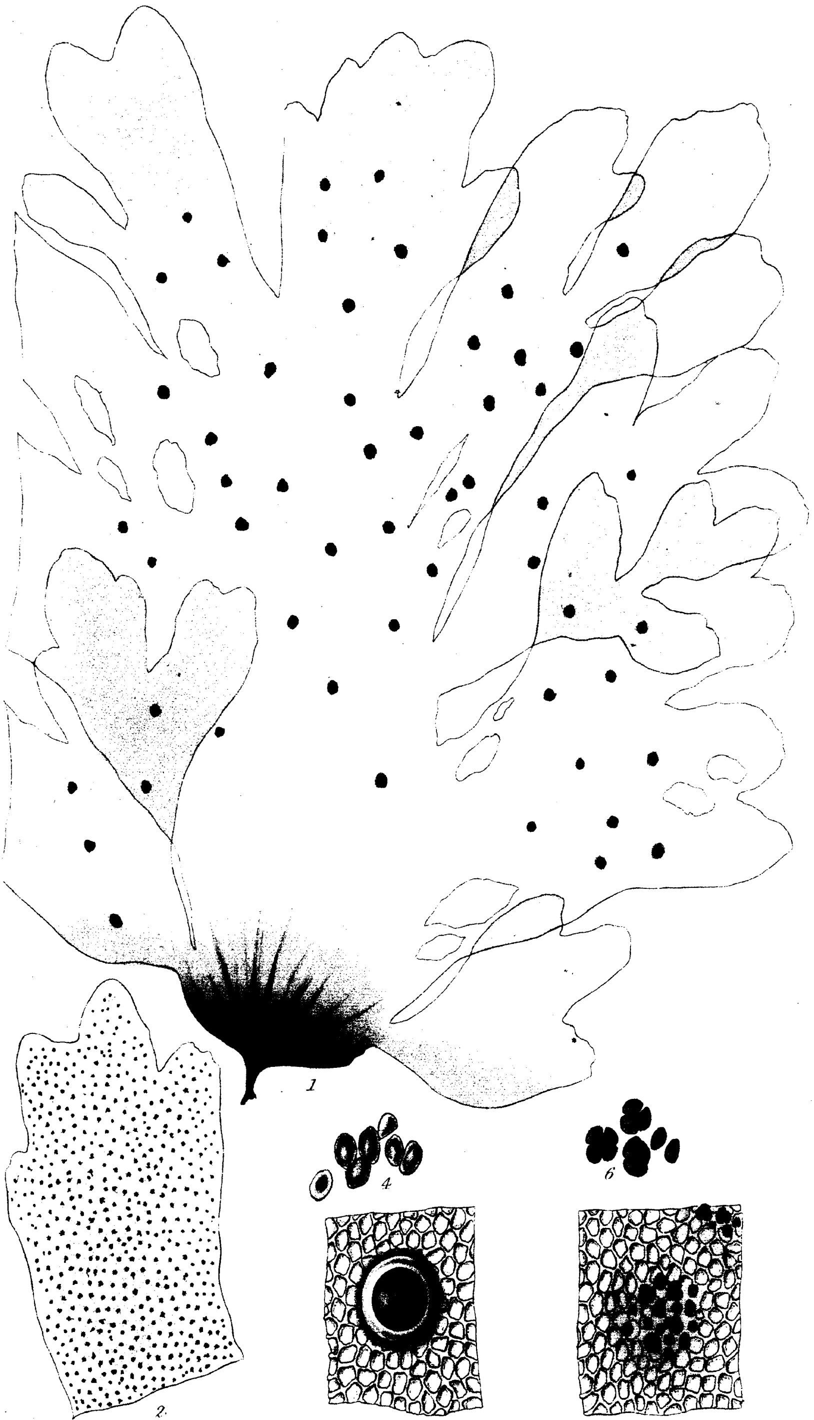
HAB. In the sea, parasitic on *Fucus loreus.* Sidmouth, winter.

Plant covering the frond of *Fucus loreus* in dark olivaceous velvety patches, about an inch in length, but sometimes extending continuously for several inches. Under the microscope, this mass is observed to be composed of a dense assemblage of exceedingly short, erect, equal, jointed *filaments,* obtuse at their apex, and bearing capsules near the base. *Joints* nearly equal in length and breadth. *Capsules* dark greenish-brown, supported on a little stalk, and surrounded with a pellucid border.

It must be acknowledged that in this minute plant I have never been able to observe any sphacellation of the extremity of the filaments. They are occasionally slightly dilated, but without any change of colour. At the same time, I do not see how it can well be referred to any other genus. I have frequently observed this alga and a nondescript *Conferva* inhabiting the same frond of *Fucus loreus.* The conferva I allude to, at first sight appears to be nothing more than *C. scutulata* of "English Botany," which is considered as a dubious *Sphacellaria* by AGARDH. It is in reality a very different plant, and a true *Conferva*, which, from its peculiar appearance, may bear the name of *C. nodiformis*, and will be distinguished by the following character:

> Conferva *nodiformis* (mihi), filis simplicibus, brevibus, erectis, in massa compacta scutiforme olivacea densissime aggregatis, articulis basi pellucidis, diametro triplo vel quadruplo longioribus.

Fig. 1. *S. velutina on a portion of the frond of Fucus loreus;* natural size. Fig. 2. *A group of filaments removed.* Fig. 3. *Ditto.* Fig. 4. *Capsules.* Fig. 5. *Summit of the filaments;* magnified.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DELESSERIA HILLIÆ.

Miss Hill's Delesseria.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss. De Cand.*

GENERIC CHARACTER.

Frons membranacea, stipitata vel acaulis, foliacea vel laminosa, rarissime filiformis. Fructus duplex: capsulæ et sori sporidiis ternis.—AG.

Frond membranaceous, stalked or sessile, either simply expanded or foliaceous, very rarely filiform. Fructification double: capsules and clusters of ternate sporidia.

SPECIFIC CHARACTER.

DELESSERIÆ Hilliæ; *fronde membranacea ad basin breviter venosa, in ambitu vage fissa, segmentis latis, inæqualibus, erosis, soris totam frondem occupantibus, confertis, punctiformibus.*

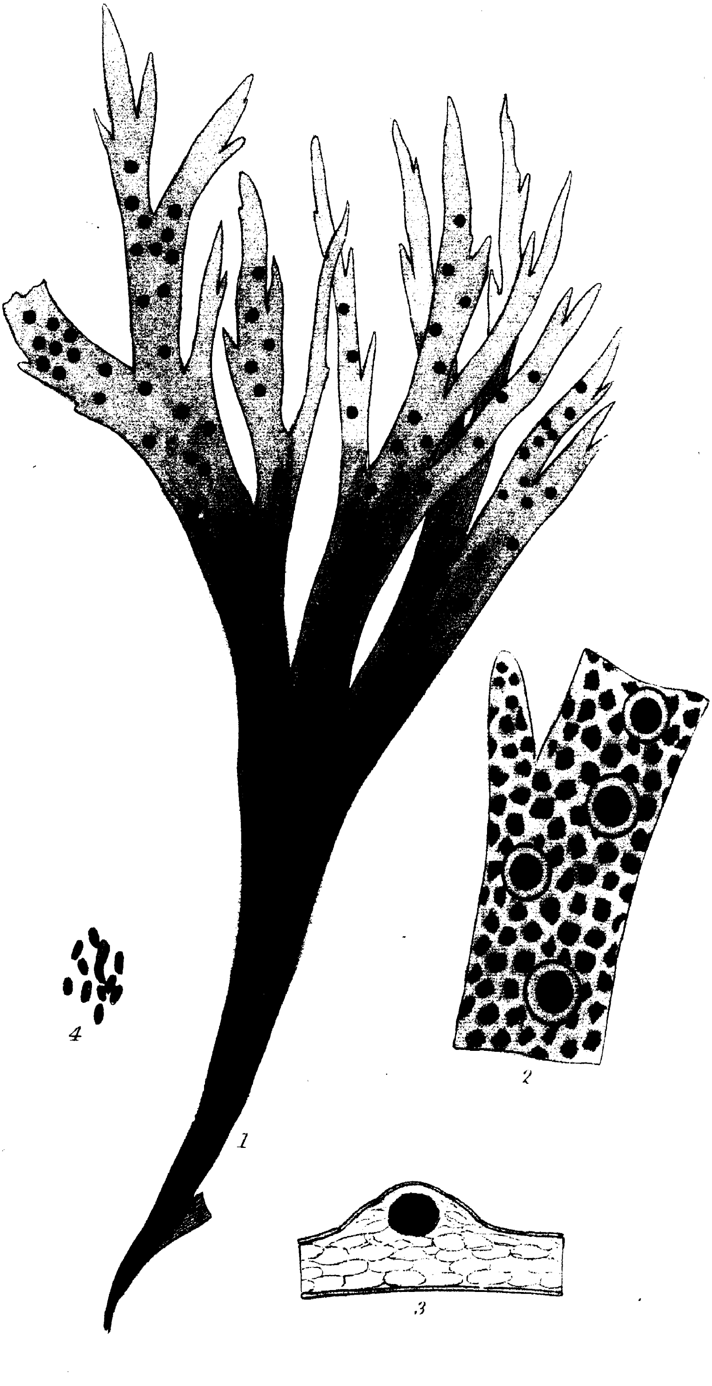
D. frond membranaceous, with short veins at the base, irregularly cleft into broad, unequal, erose segments, sori dispersed over the whole frond, very numerous, punctiform.

HAB. In the sea; October. Plymouth, Miss HILL. At Torquay, Mrs GRIFFITHS.

Root minutely scutate. *Frond* either sessile or supported on a cylindrical stipes 1–3 lines in length, of a roundish outline, 5–8 inches in diameter, furnished with a few short, radiating, obscure veins at the very base, cleft around the circumference (to the middle or even deeper), into segments an inch or more in breadth, slightly undulate at the margin, more or less erose, and sometimes shortly subdivided at their extremity. The *substance* is delicate, but much softer and thicker than *D. punctata*, *D. ocellata,* and *D. Bonnemaisoni,* resembling, when handled in the fresh state, according to Miss HILL and Mrs GRIFFITHS, exceedingly fine kid leather; the *texture,* however, is finely reticulated, but rather more closely than in *D. punctata*. *Capsules* the size of turnip-seed, hemispherical, and sharply umbonate, scattered over every part of the frond, and containing a mass of red oval or ovate sporidia. *Sori* punctiform, on separate plants, very numerous, occupying every part of the frond, and composed of ternate sporidia.

It has again fallen to my lot to present my readers with an Alga belonging to the difficult group of which *D. punctata* is perhaps the best known. In regard to the present individual, though perfectly convinced of its distinctness as a species, from every other published by Professor AGARDH, yet I am compelled to speak of it with caution, when I compare it with the *Fucus ulvoides* of TURNER. In the size of the capsules, their form, and the very short stipes, that plant resembles the present one; but it wants the veins at the base, and the divisions of the frond are much more regular, and vastly narrower. Mr TURNER's plant, too, is of a pale pink colour, turning to a dirty white in decay; mine is of a dull pinkish-red, changing in all my specimens to a dirty green in decay, but they probably would have at length become colourless. The substance of Mr TURNER's plant is very thin and tender: mine is described by the original discoverer as being soft and thickish; but I confess had I judged only from dried specimens, I should have said it was very thin indeed. Lastly, Mr TURNER's plant adheres firmly to paper; mine imperfectly, having a tendency to partial separation and laceration. I shall now leave the subject to future botanists. Like Mr TURNER, I have laboured under the disadvantage of having only dried specimens to work upon; but under the doubts that exist regarding the identity of the two plants, and having materials to decide the features of one of them, I have ventured to name that one in honour of Miss HILL of Plymouth, a lady not unknown to fame in the marine botany of England, as an accurate observer and assiduous collector.

Fig. 1. *D. Hilliæ, with capsular fructification.* Fig. 2. *Portion of a frond with sori;* natural size. Fig. 3. *Capsule.* Fig. 4. *Sporidia.* Fig. 5. *Sorus.* Fig. 6. *Ternate sporidia;* magnified.



352.

SPHÆROCOCCUS POLYCARPUS.

Many-seeded Sphærococcus.

Class and Order CRYPTOGAMIA ALGÆ, *Linn.*—Nat. Ord. *ALGÆ, Juss. De Cand.*

GENERIC CHARACTER.

Frons varia (plana, compressa vel cylindrica). Fructus, capsulæ sphæricæ nucleo globoso sporidiorum.

Frond various (plane, compressed or cylindrical). Fructification, spherical capsules, containing a globular nucleus of sporidia.

SPECIFIC CHARACTER.

Sphærococcus polycarpus; *fronde cartilagineo-membranacea, plana, subdichotome divisa, segmentis sublinearibus, ad apicem laciniatis, acutiusculis, capsulis magnis immersis, in superficie frondis prominentibus.*

S. frond cartilagineo-membranaceus, plane, subdichotomously divided, the segments nearly linear, laciniate at the extremity, and somewhat acute, capsules large, immersed, prominent on the surface of the frond.

Hab. In the sea. Under Tait's Hill, near Plymouth, Miss Hill: 1814.

Root I have not seen. *Frond* plane, about seven inches in length, between cartilaginous (or even coriaceous) and membranaceous, of a deep blackish-red at the base, becoming gradually paler upwards, and not having any transparency till near the top; the principal divisions appear to commence near the base in a dichotomous manner, and are not more than 2–3 lines broad at the point of division; they gradually dilate, however, to several times that breadth before they divide again, which they do very irregularly, becoming somewhat laciniate towards the extremity, the laciniæ or ultimate divisions being rather acute. *Capsules,* which are plentifully scattered over the whole frond, are as large as turnip seed, dark red, and though prominent, immersed in the substance of the frond. The *structure* of the frond a good deal resembles that of *Halymenia palmata,* but is much more dense.

It is much to be regretted that we are acquainted with only a single specimen of this plant, and even that by no means in a perfect condition. It is nevertheless sufficiently entire to ex-

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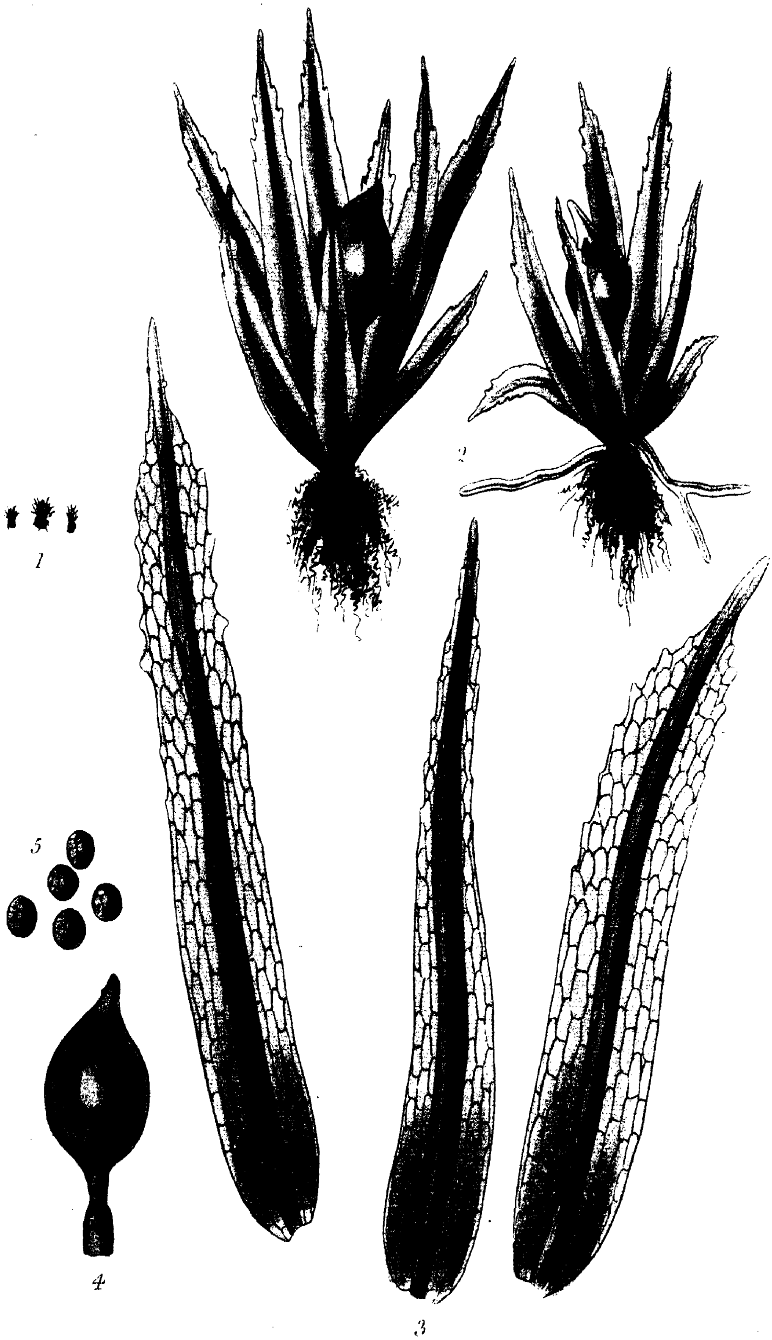
hibit very decided characters for illustration. I therefore do not hesitate to record it, in the hope that the attention of botanists may be drawn towards it, and be the means of completing the account now offered. When the specimen was first placed in my hands, it occurred to me that it might be the real *Fucus sarniensis* of MERTENS, which authors seem unanimous in referring to *Halymenia palmata.* I am sorry that having no authentic specimen, and no access at this moment to the Catalecta Botanica of ROTH, I am unable to form my own opinion upon this point. At any rate, the Alga now before us is distinguished from every state of *Halymenia palmata,* by its much redder colour, thicker substance, and, above all, by the fructification. The surface of the frond is minutely pitted under the microscope, even after having been macerated; but this appearance is perhaps the result of prior desiccation.

Fig. 1. *S. polycarpus;* natural size. Fig. 2. *Portion of the frond.* Fig. 3. *Section of a portion of the frond, with capsule.* Fig. 4. *Sporidia;* magnified.



353.

PHASCUM CRASSINERVIUM.

Broad-nerved Phascum.

CLASS AND ORDER CRYPTOGAMIA MUSCI, *Linn.*—NAT. ORD. *MUSCI, Juss. De Cand.*

GENERIC CHARACTER.

Operculum persistens. Calyptra brevis, fugax.

Lid persistent. Calyptra short, fugacious.

SPECIFIC CHARACTER.

PHASCUM crassinervium; *caule nullo, foliis lineari-lanceolatis dentatis, nervo crasso, latoque, excurrente, capsula subsessile.*

P. stem none, leaves linear-lanceolate, toothed, the nerve thick, broad, and excurrent, capsule subsessile.

PHASCUM crassinervium, *Schwaegr. Suppl.* I. p. 4. t. 2.—*Nees & Hornsch. Bry. Germ.* v. 1. p. 40. t. 4. f. 3.

HAB. In a fallow field (on a light limestone soil) by the side of Bedford Purlieus, near Wansford, Northamptonshire, Dec. 13. 1827, Rev. M. J. BERKELEY.

Plant minute, being only a little larger than *P. serratum. Stem* almost none, occasionally throwing out a few confervoid shoots. *Leaves;* the outer ones often spreading or slightly recurved, the inner ones erect, lanceolate, linear-lanceolate, or even lanceolate-subulate, rigid, largely reticulated, the upper half vaguely toothed, furnished with a thick broad nerve, which is either percurrent or excurrent, and of a dark green colour. *Seta* erect, exceedingly short. *Capsule* globose, brown, with a short, oblique, obtuse apex. *Calyptra* short, very fugacious. *Seeds* large, globose, reticulated.

It is to the Rev. Mr BERKELEY that we owe the discovery of this very interesting moss, specimens of which he kindly communicated to me, along with some other novelties, which, to my regret, the termination of this work will prevent me from recording in its pages. Till very recently, *Phascum crassinervium* was supposed to be confined to America, where it was originally discovered by MUHLENBERG. It has been now added

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to the German flora by M. Bruch, a very active bryologist, and has found a place in the valuable Bryologia Germanica, in progress of publication by my highly esteemed friends Dr Nees von Esenbeck and Dr Hornschuch. But these, in addition to that of Great Britain, are the only general stations known of this very rare species. It is distinguished from *P. serratum* by the presence of a nerve; from *P. stenophyllum* by the thickness of the nerve, and the absence of regular serratures; from *P. cohærens* by the longer and narrower leaves, their compressed and much broader nerve, and toothed margin.

Fig. 1. *P. crassinervium,* natural size. Fig. 2. *Plants.* Fig. 3. *Leaves.* Fig. 4. *Capsule.* Fig. 5. *Seeds:* magnified.

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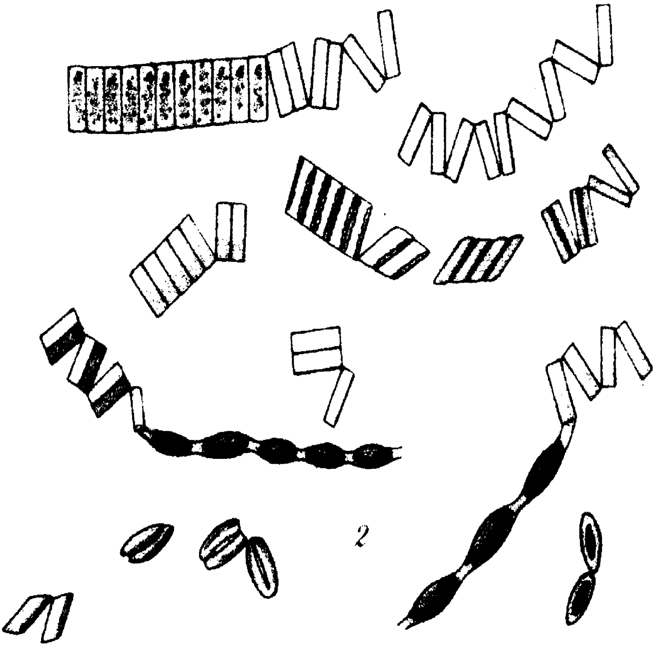

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3.54

DIATOMA TENUE.

Slender Diatoma.

Class and Order CRYPTOGAMIA ALGÆ, *Linn.*—Nat. Ord. *ALGÆ*, *Juss. De Cand.*

GENERIC CHARACTER.

Fila articulata, hyalina, rigida, simplicia, tandem articulis solutis angulo alternatim cohærentia.

Filaments articulated, hyaline, rigid, simple, the joints at length separating at the articulations, and cohering by their alternate angles.

SPECIFIC CHARACTER.

Diatoma tenue; *strato fuscescente, filis lævibus (non striatis) articulis diametro triplo vel quadruplo longioribus.*

D. mass or stratum pale brownish, filaments even (not striated), the joints three or four times longer than broad.

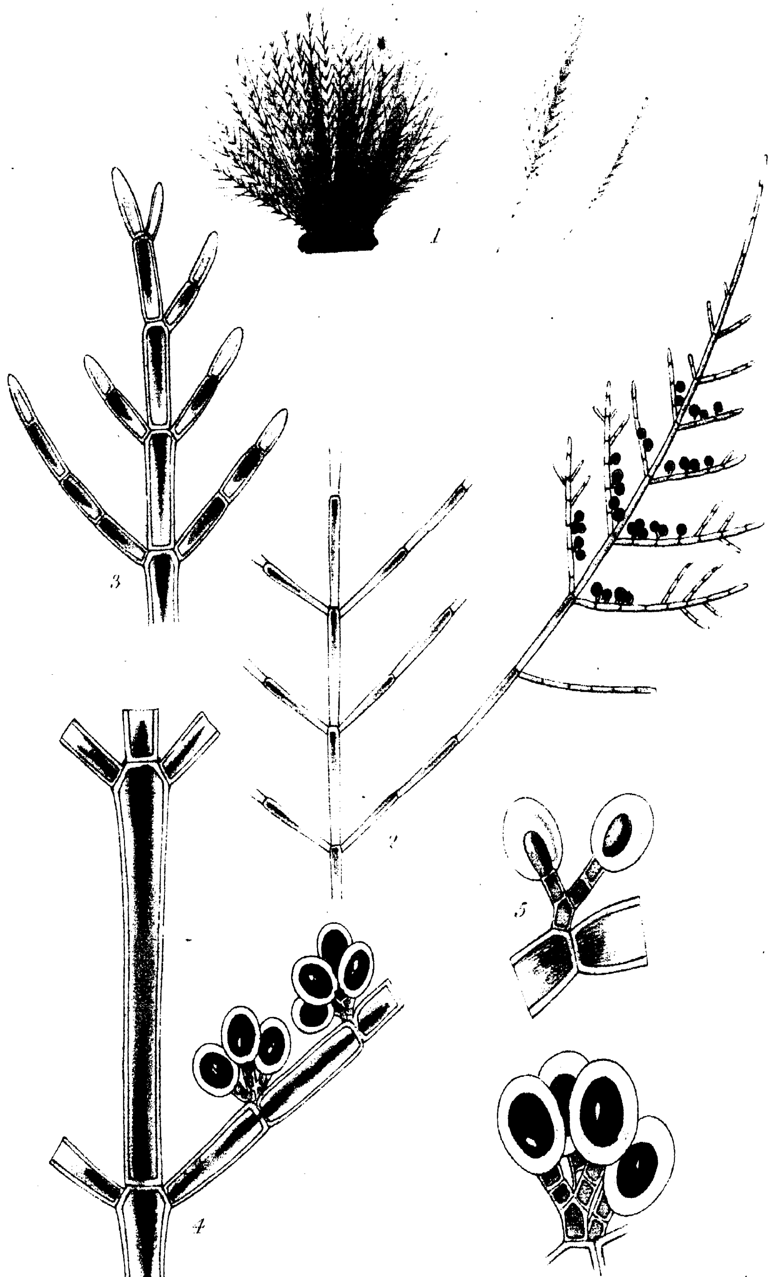
Diatoma tenue, *Ag. Svensk. Bot.* 491. f. 4. & 5.—*Syst. Alg.* p. 4.

Hab. In pools and lakes. Northamptonshire, Rev. M. J. Berkeley.

Plant forming a pale brownish stratum or covering over various substances, such as dead leaves, mosses, sticks, &c. in fresh-water, changing when dry to whitish-green. *Filaments* simple, pale yellowish, even (not marked with transverse striæ), the joints about three to four times longer than they are broad, sometimes dilated at each extremity, changing their form very considerably, and, it would appear, very irregularly in age.

So little is actually known about the *Diatomeæ*, that it is impossible to speak with certainty about their characters, or the changes which some species appear to undergo. Specimens of the present individual were kindly communicated to me by Mr Berkeley, by whom it has been added to the British Flora. On comparing these specimens with others presented to me by Professor Agardh, I find no reason to differ from Mr Berkeley, who had named it *D. tenue*, Ag.; though I could not perceive the dilatation which Agardh attributes to the extremities of the joints. The length of the joints also differs somewhat, being a little longer in the Agardhian specimens; but in this respect, as well as in their relative breadth, the joints do not agree throughout the same mass. A very singular fact has been observed by Mr BERKELEY, and I believe by him only, which would lead us to conclude that many phenomena exhibited by these curious plants remain to be discovered. The filaments at a certain period seem to lose the squareness of their figure, to be attenuated at their extremities, and dilated in the centre; to become cylindrical and opaque, and in short, metamorphosed into a moniliform filament, with elliptical or oblong purple joints, and colourless articulations. Mr BERKELEY's observations were accompanied with sketches of the different parts, and from his accuracy, I have no doubt whatever that he has represented this remarkable appearance correctly. Indeed, his specimens afforded me ocular demonstration of nearly the same appearance. The annexed figures are partly derived from his drawings, and partly from my own investigations.

Fig. 1. *D. tenue,* natural size. Fig. 2. *Filaments, magnified.*



355.

CERAMIUM TURNERI.

Turner's Ceramium.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss. De Cand.*

GENERIC CHARACTER.

Fila articulata, rosea vel purpurea, tubo simplici; capsulæ globosæ, sporidia numerosa conglomerata includentes.—AG.

Filaments jointed, fine red or purple colour, composed of a single tube. Capsules globose, containing a cluster of numerous sporidia.

SPECIFIC CHARACTER.

CERAMIUM Turneri; *filis cæspitosis, sub-bipinnatis, pinnis et pinnulis oppositis, articulis diametro multoties longioribus, capsulis pedicellatis, secundis.*

C. filaments tufted, somewhat bipinnate, pinnæ and pinnulæ opposite, the joints many times longer than they are broad, capsules pedicellate, secund.

CERAMIUM Turneri, *Roth. Cat. Bot.* v. 3. t. 5.—*Ag. Syst. Alg.* p. 142.—*Spreng. Sp. Pl.* v. 4. p. 352.
CONFERVA Turneri, *Dillw. Conf.* t. 100.—*Sm. Eng. Bot.* t. 2339.

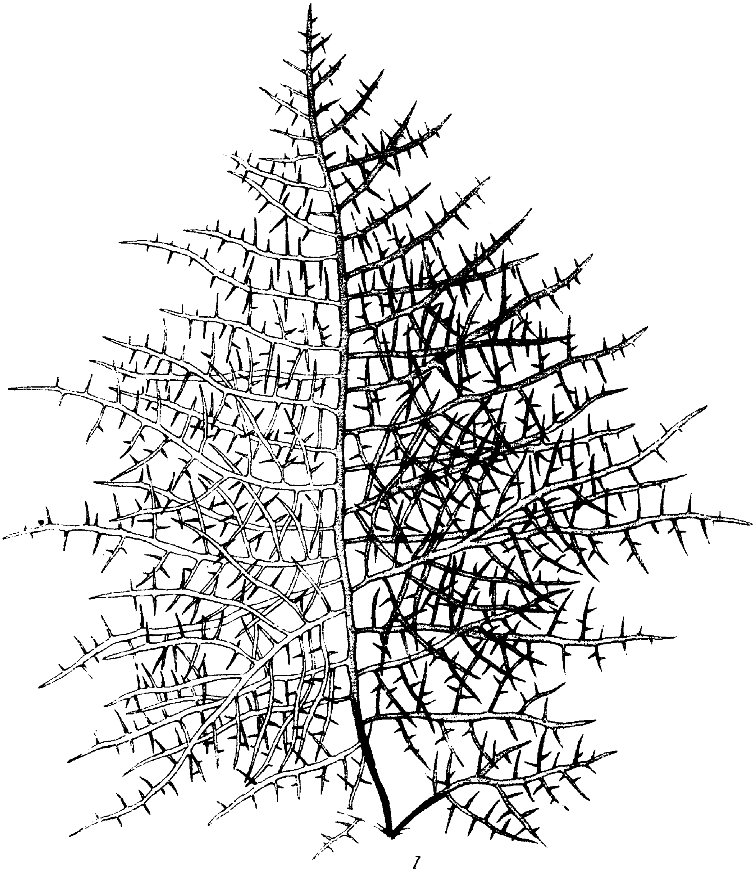
HAB. On Algæ and Corallines in the sea. Cromer, Mr DILLWYN. Southampton, Miss BIDDULPH. Near Sidmouth, Mrs GRIFFITHS.

Fronds about three quarters of an inch in length, growing in dense rose-coloured tufts from other Algæ; towards their base generally naked, but pinnated or bipinnated above, the *pinnæ* and *pinnulæ* opposite, spreading, obtuse at their extremities. In luxuriant specimens, the pinnulæ are often again imperfectly pinnated towards their apex. *Joints* fine rose-colour, in the middle of the main filament at least eight times longer than broad, at the summit 3–4 times; every where colourless at the articulations. *Capsules* secund, on the upper side of the pinnæ or pinnulæ, pedicellate, solitary or 2–4 together, with a pellucid limbus, and containing 3–5 large sporidia.

This remarkably beautiful *Ceramium* is so erroneously represented, both in DILLWYN's work on the British Confervæ, and in English Botany, that I had completed my drawing under the impression that it must be a distinct and nearly allied species. The habit of the plant is, however, so peculiar, and the opposite branches and secund capsules form such strong characters, that I am now convinced of the contrary. Unless, however, the very uppermost joints be taken of the primary filaments or branches, their length instead of being only three times that of their breadth, as both Dillwyn and Smith assert, is at least 6–8 times that of their breadth.

The capsules are singularly beautiful, and contain much larger sporidia than most *Ceramia*.

Fig. 1. *C. Turneri,* natural size. Fig. 2. *Portion of a primary filament, with one of the larger pinnæ.* Fig. 3. *Summit of a primary filament.* Fig. 4. *Portion of a pinna, with the base of one of the pinnulæ and capsules.* Fig. 5. *Young capsules.* Fig. 6. *Mature capsules:* magnified.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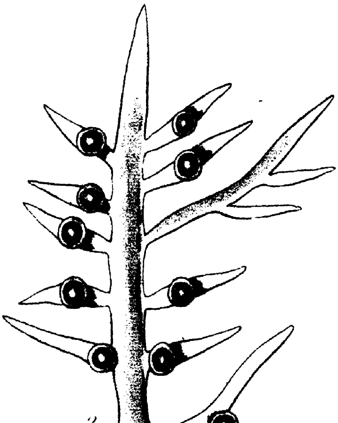
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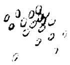
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SPHÆROCOCCUS TEEDII.

Teed's Sphærococcus.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss. De Cand. &c.*

GENERIC CHARACTER.

Frons varia (plana, compressa vel cylindrica). Fructus, capsulæ sphæricæ nucleo globoso sporidiorum.

Frond various (plane, compressed or cylindrical). Fructification, spherical capsules containing a globular nucleus of sporidia.

SPECIFIC CHARACTER.

SPHÆROCOCCUS Teedii; *fronde membranacea, flaccida, compresso-plana, lineari, vage bi-tri-pinnatifida, ciliis marginalibus subulatis capsuliferis, capsulis solitariis.*

S. frond membranaceous, flaccid, nearly plane, linear, vaguely bi-tri-pinnatifid, with marginal, subulate, capsuliferous ciliæ; capsules solitary.

SPHÆROCOCCUS Teedii, *Ag. Sp. Alg.* v. 1. p. 277.—*Syst. Alg.* p. 255.—*Spreng. Sp. Pl.* v. 4. p. 337.
FUCUS Teedii, *Turn. Hist. Fuc.* t. 208.
FUCUS pistillatus, var. B. *Lamour. Diss.* p. 51. t. 28.. *mala.*
CERAMIUM Teedii, *Roth. Cat. Bot.* v. 3. p. 108. t. 4.
GIGARTINA Teedii, *Lamour. Ess.* p. 49. t. 4. f. 11.

HAB. On the coast of Devonshire, at Lupton Cove, Torbay, growing from the margin of small rocky pools; October. Mrs GRIFFITHS.

Root minutely scutate. *Fronds* dull pink or red, several from the same base, 3–5 inches in length, nearly cylindrical at the base, but immediately becoming plane, and about a line or a line and a half in breadth, till towards the apex, where it becomes attenuated and acute: at a few lines above the root, the fronds begin to produce numerous branches, some of them often half as long as the entire frond, spreading nearly horizontally on each side in a pinnated manner, and attenuated at each extremity. These pinnæ are set with pinnulæ, which in their turn sometimes bear a few little branchlets, but in any case have rather distant marginal ciliæ, or short, slender, subulate processes, on which the capsules are placed. *Capsules* minute, red, globose, situated mostly about the centre of the ciliæ, containing a mass of very minute red seeds.

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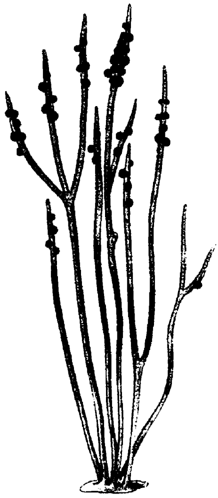
A very beautiful Alga, found on the shores of France, Portugal, Spain, in the Mediterranean, and even on the coasts of Chili and Peru: but as a native of the British seas, it was altogether unknown, till Mrs GRIFFITHS discovered it in the year 1811. At the spot where she observed it, it seemed to have attained its full size, but none of the specimens were in fructification. The illustration, therefore, of the capsules, I have borrowed from some individuals communicated to me from the Ionian islands. It was remarked by my friend Mrs GRIFFITHS, that it might be mistaken at first sight, in its growing state, for large specimens of *Sphærococcus corneus*, but was easily distinguished, independent of other characters, by its comparative tenderness and flaccidity.

Fig. 1. *S. Teedii,* natural size. Fig. 2. *A portion with capsules (from a foreign specimen).* Fig. 3. *One of the ciliæ with a capsule.* Fig. 4. *A partial section of a capsule.* Fig. 5. *Seeds:* magnified.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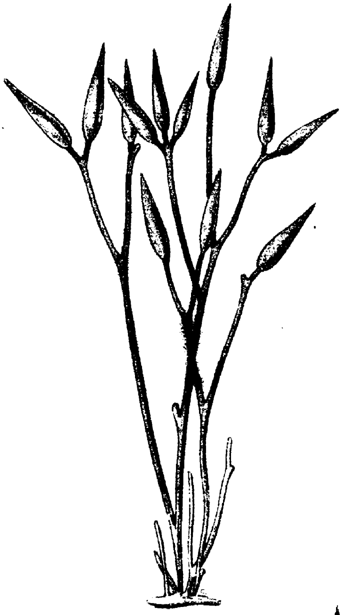
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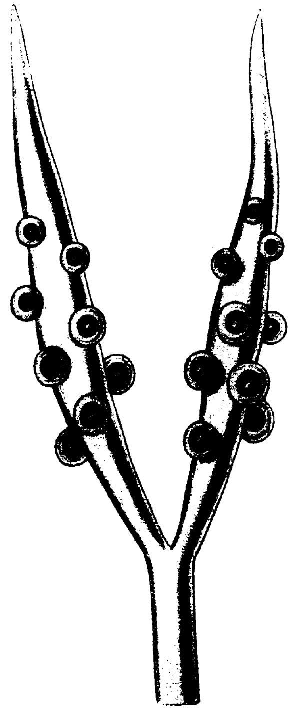
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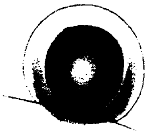
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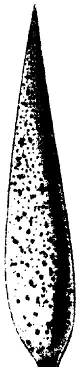
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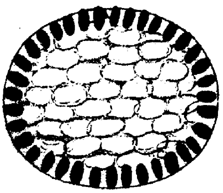
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SPHÆROCOCCUS? ERECTUS.

Erect Sphærococcus.

Class and Order CRYPTOGAMIA ALGÆ, *Linn.*—Nat. Ord. *ALGÆ*, *Juss. De Cand.*

GENERIC CHARACTER.

Frons varia (plana, compressa vel cylindrica). Fructus, capsulæ sphæricæ nucleo globoso sporidiorum.

Frond various (plane, compressed or cylindrical). Fructification, spherical capsules containing a globular nucleus of sporidia.

SPECIFIC CHARACTER.

Sphærococcus? erectus; *fronde cartilaginea, tereti, filiformi, bi-unciali, ramis simpliciusculis, paucis, erectis, capsulis sessilibus globosis.*

S. frond cartilaginous, terete, filiform, two inches high, the branches nearly simple, few, erect, capsules sessile, globose.

Hab. In the sea; February. Discovered in England by Mrs Griffiths at Tor-Abbey rocks, Meadfoot, Waldon rocks, &c. in Torbay; and at Sidmouth.

Fronds of a dull orange-red colour, about two inches in height, a considerable number arising together from a thin, expanded, radicular base, erect, cartilaginous, cylindrical, hardly thicker than a hog's bristle, divided from one to three times in a dichotomous manner, the branches nearly erect, somewhat acute. On some plants, the branches are terminated with shortly lanceolate pods, of a semitransparent substance, and very dilute orange-red colour, having the circumference set round with numerous imbedded oblong granules. These pods at length fall off, and leave the summit of the branches truncated. At the same time with the foregoing, but on distinct plants, sessile capsules are produced, chiefly in an aggregate manner towards the ends of the branches, of a globular form, half the size of turnip seed, destitute of a mamillate apex, and containing oblong sporidia. The plant is invariably found growing perfectly erect, generally more or less immersed in sand, often more than half its height.

At first sight, this very singular little plant might be taken for an extraordinary state of *Sphærococcus confervoides;* and

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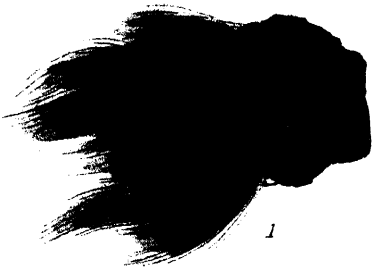
that it really would prove so, was suspected by Prof. AGARDH, to whom I communicated specimens. I have since, however, had opportunities of seeing it growing, and produce its fructification in greater luxuriance, and am now induced to regard it as distinct. A striking difference between the form of the capsules in this plant and *S. confervoïdes*, was pointed out to me by Mrs GRIFFITHS. In the former, the capsules are really globular, and without a mamillate apex; while in the latter, it is well known they are decidedly mamillate; they are besides very considerably larger.

Another and still more remarkable feature, is the pod-like termination of the branches, which never occurs on the capsuliferous plants. In these pods are imbedded numerous granules, which certainly appear to be a second mode of fructification, more especially as the pods are deciduous, and are mature at the same time as the capsules. No such character has ever been observed in *S. confervoides*; and if we add that the fruit of *S. confervoides* is ripe in August, September and October, while that of *S. erectus* is only to be seen in February, we need hardly hesitate to consider them as distinct from each other. The present individual, however, is not the only species of *Sphærococcus* (AGARDH) which exhibits an analogous mode of double fructification, discovered by Mrs GRIFFITHS, who directed my attention towards it. *S. confervoides*, when it appears sterile, has often granules imbedded in the circumference of the branches; so also has *S. purpurascens*, in which they are of considerable size. These granules are ovate or oblong, simple, and sometimes surrounded by a pellucid border.

Fig. 1. *S. erectus, capsuliferous plant.* Fig. 2. *Plant with terminal pods;* natural size. Fig. 3. *Summit of a frond with capsules.* Fig. 4. *Capsule.* Fig. 5. *Sporidia.* Fig. 6. *Summit of a branch with a pod.* Fig. 7. *Transverse slice from ditto.* Fig. 8. *Granules;* magnified.



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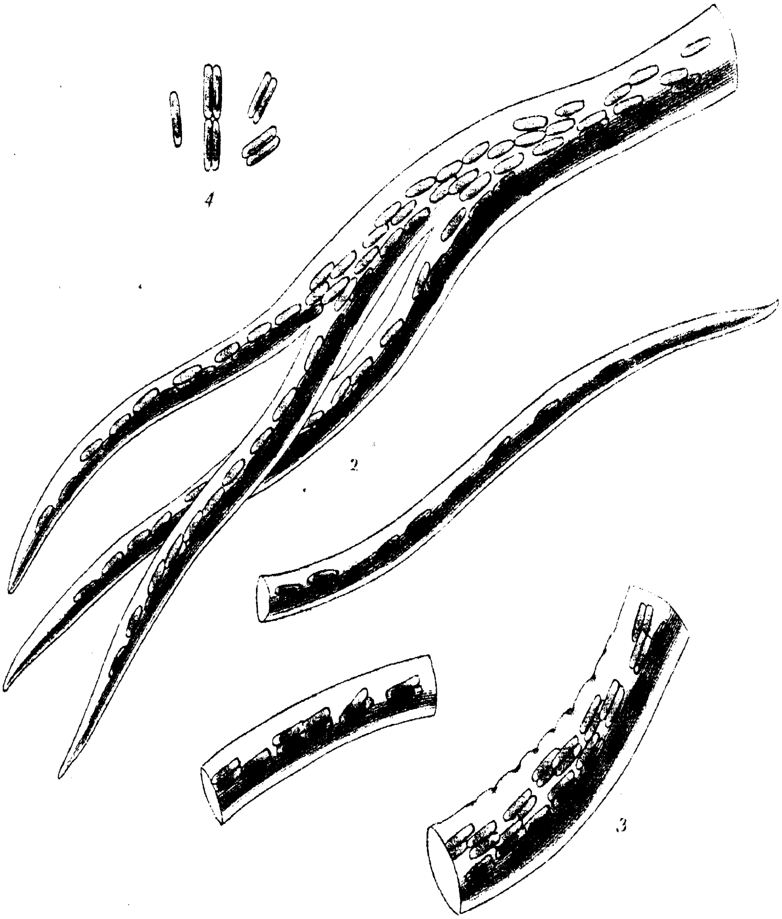

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3

MONEMA COMOIDES.

Hair-like Monema.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss. De Cand. &c.*

GENERIC CHARACTER.

Fila libera, continua, tubulata, capillaria, granula oblonga vel subelliptica includentia.

Filaments free, continuous, tubular, capillary, containing oblong or subelliptical granules.

SPECIFIC CHARACTER.

MONEMA comoides; *filis laxe cæspitosis, flaccidis, ferrugineo-fuscis, irregulariter ramosis, ramis attenuatis, acutiusculis, granulis geminatis oblongis.*

M. filaments loosely tufted, flaccid, reddish-brown, irregularly branched, branches attenuated, subacute, the granules oblong, geminate.

SCYTONEMA comoides, *Ag. Syn.* p. 112.—*Syst. Alg.* p. 41.—*Spreng. Sp. Pl.* v. 4. p. 363.

CONFERVA comoides, *Dillw. Conf.* t. 27.—*Engl. Bot.* t. 1700.

HAB. In the sea, growing plentifully on the surface of smooth rocks and stones, and less frequently from large Algæ, wooden posts, &c. from April to October. Very abundant near Sidmouth, and many other parts of the coast.

Filaments growing from rocks and stones in a tufted but not very crowded manner, but lying over each other (when not immersed in the water) so as to resemble the hair on the head of a young child; about an inch in length, slender, very flexible and flaccid, branched very irregularly; the branches given off acutely, sometimes remotely, at others almost in a fasciculate manner, attenuated at their extremity. Sometimes two or more filaments appear to coalesce for the greater part of their length, and afterwards divide. *Granules* cylindrical-oblong, geminate, having no tendency to form parallel lines, but unconnected, and in no marked order. *Structure* decidedly tubular, but the membrane is very delicate and transparent. *Colour* when recent a reddish-brown, changing to a greenish-grey after having been dried.

Having examined this plant very carefully in its recent state, and traced it from its first appearance to maturity, I am

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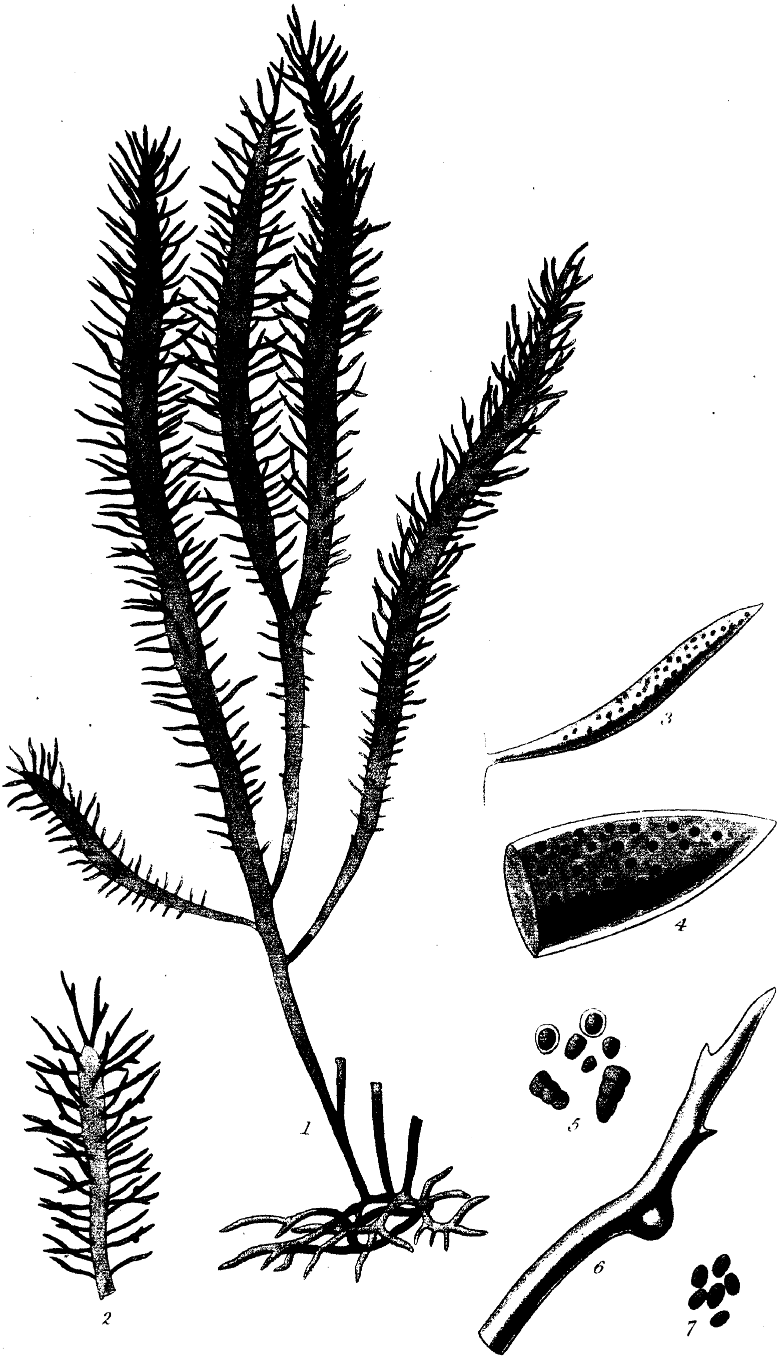
enabled to place it in the group of Algæ to which it truly belongs. By Professor AGARDH it is regarded as a species of *Scytonema*, but that excellent observer probably never saw it growing; and every one who has studied the Algæ at all, is aware of the difficulty of determining the structure of minute kinds from dried specimens; besides, from the figures published in DILLWYN'S "Confervæ," and in "English Botany," it is quite impossible to ascertain the real nature of the plant; nor do either of them, indeed, represent the enlarged filaments correctly. LYNGBYE has admitted it into his Tentamen Hydrophytologiæ Danicæ, but has given no figure; nevertheless it is clear he has not the right plant, for in the specimens before us, there is nothing resembling "annuli distantes, aurantii, moniliformes;" and besides, he says his specimens do not change in drying, which the true plant invariably does.

In habit and mode of branching, this species approaches the genus *Schizonema*, but it is really tubular, and the granules form no parallel lines: when the filament divides, it is independently of the arrangement of the granules, the reverse of which s the case in the true *Schizonemata*.

When I described *M. Dillwynii*, I had some suspicion that *Conferva comoides* might not prove to be different. Having subsequently seen the latter in a living state, I have no doubt they are distinct. The very habit of growth in *M. comoides* is peculiar: it does not grow in solitary tufts, but often takes entire possession of the surface of rocks for many yards together, especially such as have been worn smooth by the action of the waves; and on flat coasts, where a very thin layer of mud is deposited on them, it thrives remarkably freely. It occurs where it is exposed to be covered at every tide, but is not met with in deep water.

Fig. 1. *M. comoides*, natural size *(represented as it floats in the water)*. Fig. 2. *Portions of filaments.* Fig. 3. *A portion of a filament, plicate on the concave side, in consequence of being artificially curved under the microscope, thus shewing the existence of a membrane.* Fig. 4. *Granules:* magnified.



359.

SPHÆROCOCCUS JUBATUS.

Fringed Sphærococcus.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ*, *Juss. De Cand.*

GENERIC CHARACTER.

Frons subcoriacea (vel expanso-plana, et tunc aut dichotoma aut pinnata, vel filiformis). Fructus, capsulæ sphæricæ intus foventes nucleum globosum sporidiorum rotundorum.—AG.

Frond subcoriaceous (either expanded-plane and then dichotomous, or pinnated, or filiform). Fructification, spherical capsules containing a globose nucleus of rounded sporidia.

SPECIFIC CHARACTER.

SPHÆROCOCCUS jubatus; *fronde flaccida, membranaceo-coriacea, plana, lineari-attenuata, subvage ramosa, vel pinnatifida, ciliata, ciliis lineari-subulatis capsuliferis.*

S. frond flaccid, membranaceo-coriaceous, plane, linear-attenuated, somewhat vaguely branched or pinnatifid, ciliated, the ciliæ linear-subulate, capsuliferous.

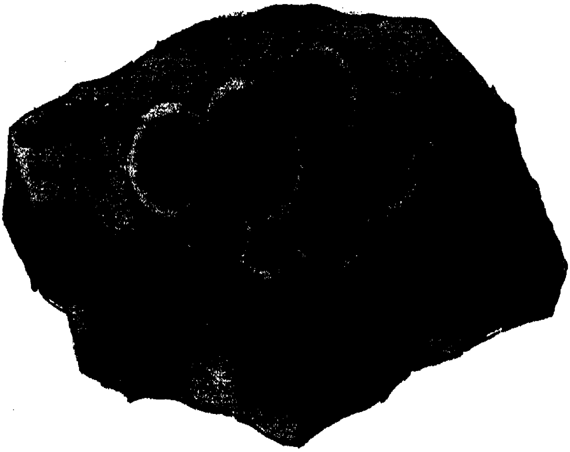
FUCUS jubatus, *Linn. Trans.* v. 3. t. 17. f. 2.?—*Stackh. Ner. Brit.* t. 11.?—*Esper. Ic. Fuc.* t. 127.? *fide Turner et Agardh.*
FUCUS ciliatus, vars. spinosus *et* lanceolatus, *Turn. Hist. Fuc.* v. 1. p. 158. et vars. jubatus *et* angustus, *Turn.* l. c.?
SPHÆROCOCCUS ciliatus, vars. linearis *et* spinosus, *Ag. Sp. Alg.* v. 1. p. 265.; *vars.* jubatus *et* angustus, *Ag.* l. c.?—*Ag. Syst. Alg.* p. 221.

HAB. In the sea, attached to rock and even the larger Algæ, producing ripe fructification in summer. On many parts of the Devonshire coast, Mrs GRIFFITHS. Near Plymouth, producing capsules, Miss HILL.

Root creeping, composed of numerous, cylindrical, branched, thickish, entangled fibres. *Fronds* numerous, branched, 3–9 inches in length, linear or linear-lanceolate, attenuated, filiform at the base, very gradually dilating, between plane and compressed, and varying from one to four lines in breadth in the broadest part. *Branches* sometimes few, nearly simple and elongated, and given off irregularly; more frequently, however, they are arranged in an unequally pinnatifid manner, elongated, and all of them, like the primary frond, attenuated at their base and apex. These branches or segments (for strictly speaking the frond is a pinnatifid one), are sometimes set with other short ones, the whole producing numerous ciliæ from the disk as well as margin. *Ciliæ* mostly simple, about two or three lines long, subulate, compressed, but often branched, almost capillary, and half an inch or even an inch in length. *Substance* rather soft and flaccid. *Fructification* of two kinds; roundish *sporidia* imbedded in the substance of the ciliæ, and hemispherical small *capsules,* situated on some part of the ciliæ.

I trust the figure and description I have been enabled to give of this plant, will be sufficient to remove all uncertainty respecting its claim to rank as a distinct species. It has been clearly ascertained by my friend Mrs Griffiths, that the fructification is produced in midsummer; whereas that of *S. ciliatus* is well known to be in a perfect state in the middle of winter. I had indeed an opportunity of observing this myself; for in December and January 1827–8, I found abundance of *S. ciliatus* in fructification, when the present species was just beginning to make its appearance in a young state; and when I left the coast in April, the plants had attained nearly their full size, but without shewing any fruit. Long before that period, *S. ciliatus* had totally disappeared. The *capsules* seem to be very rare, as I have seen only the specimen found by Miss Hill. Mr Turner mentions a specimen of his var. δ having been also found by Mrs Griffiths. I have been obliged to quote some of Mr Turner's varieties doubtfully, for it is impossible to decide with certainty without seeing the original specimens; for after all, there are states of *S. ciliatus* which come very near to *S. jubatus* in appearance. It is worthy of remark, that *S. ciliatus* has two modes of fructification, one of them being broad sori of imbedded *sporidia,* many of which are ternate, thus rendering the plant a *Delesseria.*

Fig. 1. *S. jubatus, with sporidia.* Fig. 2. *A portion of a frond with capsules,* natural size. Fig. 3. *One of the ciliæ with sporidia.* Fig. 4. *Summit of ditto.* Fig. 5. *Sporidia.* Fig. 6. *Portion of a cilia, with a capsule.* Fig. 7. *Sporidia*: magnified.



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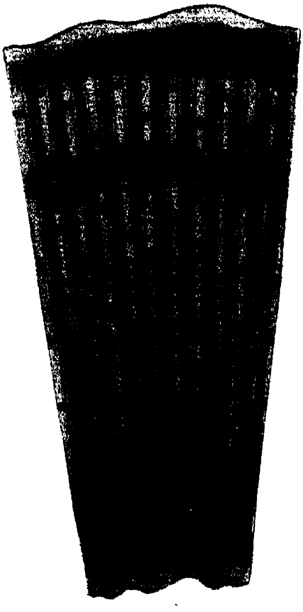

3

ZONARIA PARVULA.

Small Zonaria.

CLASS AND ORDER CRYPTOGAMIA ALGÆ, *Linn.*—NAT. ORD. *ALGÆ, Juss. De Cand.*

GENERIC CHARACTER.

Frons flabelliformis vel dichotoma, ecostata, submembranacea, e fibris parallelis constituta, lineis fructiferis (plerumque) transversis; capsulæ in soris coacervata.—AG.

Frond flabelliform or dichotomous, ribless, submembranaceous, composed of parallel fibres, the lines of fructification (mostly) transverse; capsules collected into sori.

SPECIFIC CHARACTER.

ZONARIA parvula; *fronde olivacea, suborbiculari, plana, membranacea, profunde lobata, lobis orbicularibus, subimbricatis, vix zonatis.*

Z. frond olivaceous, suborbicular, plane, membranaceous, deeply lobed, the lobes round, somewhat imbricated, scarcely zoned.

HAB. In the sea; attached to sandstone rocks near Sidmouth in Devonshire; March.

Frond olivaceous, closely attached to the rock, membranaceous, the surface lubricous, about an inch or an inch and a half in breadth, the outline suborbicular, but the plant made up of several round or reniform lobes, which are not unfrequently imbricated. The lobes are quite entire, thin, and somewhat transparent at the margin, where they are also of a paler colour; beneath they are furnished towards the centre with a short, white, radicular pubescence.

Among the few specimens I observed of this plant, I could find no trace of any fructification; and it is very probable it might not have arrived at perfect maturity, though it had the appearance of full size, and its microscopical structure seemed well developed. It appears to have been unobserved hitherto; and my chief object in publishing a figure of it in its present unsatisfactory state, is to draw the attention of other botanists towards it.

Fig. 1. *Z. parvula,* natural size. Fig. 2. *One of the lobes of the frond.* Fig. 3. *A portion of the frond to shew the structure:* magnified.

SYNOPSIS

GENERUM ET SPECIERUM,

CUM

RECENSIONIBUS ET CHARACTERIBUS EMENDATIS.

CLASS I. FUNGI.

DIVISIO I. CONIOMYCETES.

ORDO I. ENTOPHYTI.—TRIB. I. HYPODERMII.

CHAR.—Sporidia varia, supra ipsum parenchyma plantarum vivarum enata, per epidermidem erumpentia.—*Fries.*

GENUS I. CYLINDROSPORIUM, *Grev.*

CHAR. GEN.—Sporidia minutissima, cylindrica, truncata, simplicia, per epidermidem erumpentia, acervulis minutis, conglutinata.

1. *C. concentricum ; (Grev.).* I. tab. 27.

HAB. In foliis *Brassicæ oleraceæ ;* æstate et autumno.

GENUS II. UREDO, *Pers.*

CHAR. GEN.—Sporidia simplicia, subglobosa, nuda, libera, sub epidermide foliorum coacervata, et epidermide rupta, facile dispersa.

1. *U. candida ; (Pers.)*, polymorpha, candida, sporidiis copiosis sphæricis. V. Tab. 251.

HAB. In caulibus et foliis *Cruciferarum ;* æstate.

2. *U. effusa ; (Strauss)*, miniato-aurantiaca, lata, pulverulenta, sparsa ; sporidiis copiosissimis, subrotundis. I. Tab. 19.

HAB. In foliis, peduriculis, et etiam capsulis, *Rosarum ;* autumno.

3. *U. Lini ; (De Cand.)*, sparsa, ovata, flavo-aurantiaca, convexa ; sporidiis subsphæricis. I. Tab. 31.

HAB. In foliis *Lini cathartici ;* æstate.

4. *U. oblongata ; (Link)*, minuta, sparsa, oblonga, fusca, epidermide longitud[illegible]ter rupta ; sporidiis subglobosis. I. Tab. 12.

HAB. In foliis *Caricum*, *Luzulæ maximæ*, &c. ; æstate.

5. *U. Polygonorum; (De Cand.)*, hypophylla, orbiculata, rarius in circulo disposita, pallido-fusca; sporidiis globosis. II. Tab. 80.

HAB. In foliis *Polygonorum;* æstate et autumno.

6. *U. Fabæ; (Pers.)*, sparsa, rotundata, depressa, fusca, epidermide rupta cincta; sporidiis subovalibus. II. Tab. 95.

HAB. In foliis, caulibusque *Viciæ Fabæ;* æstate.

7. *U. Geranii; (De Cand.)*, hypophylla, fusca, orbicularis; sporidiis epidermide cinctis, globosis, tandem effusis. I. Tab. 8.

HAB. In foliis *Geraniorum*; æstate.

GENUS III. ÆCIDIUM, *Gmel.*

CHAR. GEN.—Pseudo-peridia foliis vivis parasitica, et erumpentia, membranacea, apice dehiscentia, ore dentato vel lacerato. Sporidia globosa, minutissima, libera, pulverulenta.

1. *Æ. Pini; (Pers.)*, sparsum; peridio pallido-flavo, oblongo-compresso, apice irregulariter dehiscente; sporidiis aurantiacis copiosissimis. I. Tab. 7.

HAB. In ramis, foliisque *Pini sylvestris;* æstate.

2. *Æ. Grossulariæ; (De Cand.)*, hypophyllum, in maculam rubram et incrassatam aggregatum; peridiis in lacinias pallidas revolutas dehiscentibus; sporidiis pallidis. II. Tab. 62.

HAB. In foliis et baccis *Ribis Grossulariæ;* æstate.

3. *Æ. Thalictri; (Grev.)*, hypophyllum, glomeratum, cæspitulis subrotundis; peridiis oblongo-cylindricis, aurantiacis, ore pallido, irregulariter dehiscente. I. Tab. 4.

HAB. In foliis petiolisque *Thalictri alpini;* æstate.

4. *Æ. Berberidis; (Gmel.)*, confertum, glomeratum; peridiis elongatis, cylindricis, aurantiacis, ore dentibus deciduis instructo; sporidiis copiosis. II. Tab. 97.

HAB. In foliis, petiolis, calycibus et germinibus *Berberidis vulgaris*; æstate.

5. *Æ. cornutum; (Pers.)*, peridiis ex maculo aurantiaco incrassato erumpentibus, longissimis, curvatis, pallide bruneis. III. Tab. 180.

HAB. In foliis *Sorbi Aucupariæ;* æstate et autumno.

6. *Æ. laceratum; (Sow.)*, peridia densissime aggregata, elongata, subimmersa, pallido-brunea, profunde lacerata; sporidiis bruneis profusis. IV. Tab. 209.

HAB. In foliis, petiolis et fructu *Cratægi Oxyacanthi;* æstate.

GENUS IV. PUCCINIA, *Pers.*

CHAR. GEN.—Sporidia 1-2-septata, pedicellata, primo adnata, per epidermidem vivam erumpentia.

1. *P. Fabæ; (Grev.)*, nigra, depressa, orbiculata; sporidiis simplicibus, ovato-globosis, stipite gracili elongato. I. Tab. 29.

HAB. In foliis *Viciæ Fabæ;* æstate et autumno.

2. *P. Heraclei; (Grev.)*, hypophylla, nigrescens, epidermide ferruginea cincta; sporidiis obtusissimis, subovatis, 1-septatis, stipite brevissimo. I. Tab. 42.

HAB. In foliis *Heraclei Spondylii;* æstate.

3. *P. variabilis; (Grev.)*, sparsa, minuta, nigra, orbicularis; sporidiis obovatis, valde obtusis, 1-septatis, loculis sæpius subdivisis, constrictisque, stipite brevissimo. II. [illegible]75.

HAB. In foliis *Leontodoni Taraxaci;* autumno.

4. *P. Buxi; (De Cand.)*, sparsa, rufo-fusca, orbicularis, convexa; sporidiis oblongis, luteis, 1-septatis, stipite longo, filiformi. I. Tab. 17.

Hab. In foliis *Buxi sempervirentis*; æstate.

Genus V. PHRAGMIDIUM, *Link.*

Char. Gen.—Sporidia pluries septata, pedicellata, liberata, intus filum moniliforme includentia.

1. *P. Potentillæ; (Grev.)*, hypophyllum, sparsum, nigrum; sporidiis oblongis, obtusis 3–4-septatis, stipite longo, filiformi. I. Tab. 57. *(Puccinia Potentillæ).*

Hab. In foliis *Potentillæ Fragariæ*, *P. argenteæ*, *P. vernæ*, &c.; æstate et autumno.

2. *P. mucronatum; (Link)*, hypophyllum, nigrum; sporidiis mucronatis, 5–7-septatis, stipite albo, filiformi, deorsum incrassato, basi glandula lutea instructo. I. Tab. 15. *(Puccinia Rosæ.)*

Hab. In foliis *Rosarum*; æstate et autumno.

Trib. II. Næmasporei.

Char.—Sporidia minuta, cum stromate conglutinata.—Sub epidermide plantarum mortuarum nascentes.—*Fries.*

Genus VI. NÆMASPORA, *Pers.*

Char. Gen.—Sporidia globosa, minima, simplicia, cum stromate gelatinoso subcellulari conglutinata, cirrhose profluentia.—*Fries.*

1. *N. magna; (Grev.)*, aterrima, stromate homogeneo, cirrhis magnis, copiosis, polymorphis, carbonaceis, fragilis, latis incurvisque vel filiformibus et tortuosis. VI. Tab. 345.

Hab. In truncis arborum mortuorum; per annum.

Trib. III. Stilbosporei.

Char.—Sporidia oblongata, plerumque septata, libera, coacervata supra stroma spurium.—Per epidermidem emortuam erumpentia, raro tecta. —*Fries.*

Genus VII. STILBOSPORA, *Pers.*

Char. Gen.—Sporidia subrotundata, simplicia, conglobata, per epidermidem emortuam, erumpentia.

1. *S. ovata; (Pers.)*, parva, elevata, sporidiis maximis, compactis, subopacis, ovatis vel subpyriformibus. IV. Tab. 212. f. 2.

Hab. In ramis arborum emortuarum.

Genus VIII. DIDYMOSPORIUM, *Nees.*

Char. Gen.—Sporidia subrotundata, uniseptata, conglobata, per epidermidem emortuam erumpentia.

1. *D. profusum; (Grev.)*, depresso-conium, atrum; sporidiis didymis minutis copiosissimis subpellucidis. IV. Tab. 212. f. 1. *(Stilbospora profusa).*

Hab. In ramis emortuis, *Fagi sylvaticæ* et *Aceris pseudo-platani.*

2. *D. betulinum; (Grev.)*, acervis irregularibus, atris, elevatis; sporidiis ovalibus subopacis, pseudo-stromate conico, sulphureo. V. Tab. 273.

Hab. In ramis emortuis *Betularum.*

Trib. IV. SPORODESMII.

CHAR.—Sporidia flocciformia, septata, receptaculo genuino innato juncta.—*Fries.*

GENUS IX. EXOSPORIUM, *Link.*

CHAR. GEN.—Sporidia cylindrica, obscura, annulata, stromate globoso innata, sursum libera, persistentia.

1. *E. Tiliæ; (Link)*, gregarium, atrum, minutum, convexum, sporidiis elongatis, obtusis, subquinque-septatis. IV. Tab. 208.

HAB. In ramis emortuis *Tiliarum.*

GENUS X. SPORODERMIUM, *Link.*

CHAR. GEN.—Sporidia clavato-fusiformia, erecta, septata, opaca, superficiali, " adnata, receptaculo innato effuso."—*Fries.*

1. *S. atrum; (Link)*, atrum, confertissimum; sporidiis subopacis 4–5-septatis. IV. Tab. 194.

HAB. In *Thelephoræ* speciebus languescentibus; autumno.

ORD. II. MUCEDINES.—Trib. I. SPOROMYCI.

CHAR.—Flocci subsimplices, cæspitosi, uniformes, erecti, persistentes, extremitatibus determinatis, basi innati vel stromate quasi juncti.—Plerumque in caulibus, foliis plantarum, &c.—*Fries.*

GENUS XI. POLYTHRINCIUM, *Kunze.*

CHAR. GEN.—Thallus e fibris cæspitosis, coloratis, erectis, simplicibus, moniliformibus. Sporidia didyma inspersa.

1. *P. Trifolii; (Kunze).* IV. Tab. 216.

HAB. In foliis vivis *Trifoliorum;* autumno.

Trib. II. TRICHOMYCI.

CHAR.—Flocci uniformes, effusi, implexi, subseptati, sporidia primo conglutinata, innatave velantes, sensim evanescentes.—*Fries.*

GENUS XII. FUSIDIUM, *Link.*

CHAR. GEN.—Flocci implexi, effusi, septati, fugacissimi. Sporidia accumulata, fusiformia, simplicia.

1. *F. griseum; (Ditm.)*, thallus colore griseo. II. Tab. 102. f. 1.

HAB. In foliis emortuis *Fagi* et *Querci;* vere.

2. *F. flavo-virens; (Ditm.)*, thallus colore viridi-flavo. II. Tab. 102. f. 2.

HAB. In foliis emortuis *Querci*, *Fagi*, &c.; vere.

GENUS XIII. SEPEDONIUM, *Link.*

CHAR. GEN.—Flocci contexti, decumbentes, septati, sporidia coacervata, demum effusa, globosa, simplicia obtegentes, sensim evanescentes. Innata.—*Fries.*

1. *S. mycophilum; (Link)*, citrinum, fungos putrescentes penetrans; sporidiis globosis pellucidis copiosissimis. IV. Tab. 198.

HAB. In fungis putrescentibus præcipue *Boletis*.

GENUS XIV. TRICHOTHECIUM, *Link.*

CHAR. GEN.—Thallus dense cæspitosus, floccosus; floccis ramosis, intricatis, decumbentibus. Sporidia ovalia didyma.

1. *T. roseum; (Link)*, floccis albidis, sporidiis copiosissimis lateritio-roseis. III. Tab. 172.

HAB. In ramis putrescentibus; vere.

GENUS XV. SPOROTRICHUM, *Link.*

CHAR. GEN.—Flocci subdecumbentes, ramosi, implexi, septati. Sporidia simplicia, libera, subglobosa, inspersa.

1. *S. minutum; (Grev.)*, subrotundum, minutum, candidum, floccis laxe intricatis; sporidiis ovalibus, numerosis, candidis. II. Tab. 108. f. 1.

HAB. In stercore.

2. *S. merdarium; (Link)*, cæspite crassiusculo, rotundato, sulphureo; sporidiis copiosis, globosis, flavis. II. Tab. 108. f. 2. *(Sporotrichum sulphureum)*.

Trib. III. BOTRYTIDEI.

CHAR.—Flocci septati, sæpius biformes, fertiles erecti, sporidia nuda subcoacervata gerentes.—*Fries.*

GENUS XVI. ACROSPORIUM, *Nees.*

CHAR. GEN.—Flocci simplici, septati, erecti, uniformes, articulis sursum crassioribus, in sporidiis deciduis.

1. *A. monilioides; (Nees)*, candidum, cæspitoso-effusum, moniliforme. II. Tab. 73.

HAB. In foliis vivis *Graminum*; vere.

GENUS XVII. BOTRYTIS, *Mich.*

CHAR. GEN.—Flocci septati, liberi, fertiles erecti apicibus simplicibus. Sporidia simplicia, circa ramos apicesve collecta.—*Fries.*

1. *B. agaricina; (Link)*, cæspitibus effusis, albis, floccis ramosissimis, ramis divaricatis; sporidiis magnis ovalibus. III. Tab. 126. f. 1.

HAB. In *fungis* putrescentibus.

2. *B. diffusa; (Alb. et Schw.)*, candida, ramosa; ramis longe lateque diffusis, ramulis undique in racemis dispositis, racemuligeris. III. Tab. 126. f. 2.

HAB. In caulibus putrescentibus plantarum herbacearum; autumno.

3. *B. nigra; (Link)*, effuso-cæspitosa, nigra, floccis fertilibus subdichotome ramosis, ramis erectis, attenuatis; sporidiis globosis, nigris, circa ramos collectis. V. Tab. 274.

HAB. In cortice arborum emortuorum.

GENUS XVIII. ASPERGILLUS, *Mich.*

CHAR. GEN.—Flocci simplices vel ramosi, septati, fertiles apice clavati. Sporidia simplicia ad apices flocci seriata.

1. *A. ? penicillatus; (Grev.)*, cinereus, sparsus, simplex; capitulo sporidiorum laxo, subnutanti; sporidiis longe seriatis, ovalibus. I. Tab. 32.

HAB. In graminibus humidis, herbario.

GENUS XIX. PENICILLIUM, *Link.*

CHAR. GEN.—Flocci septati, liberi, fertiles erecti, apice penicillati. Sporidia simplicia, in penicillis collecta.

1. *P. glaucum; (Link)*, dense cæspitosum, effusum, capitulis sporidiorum demum glaucis. I. Tab. 58. f. 1.

HAB. In *fungis*, &c. putrescentibus.

3. *P. sparsum; (Grev.)*, floccis fertilibus sparsis, capitulis sporidiorum candidis. I. Tab. 58. f. 2.

HAB. In caulibus putrescentibus plantarum; autumno.

GENUS XX. COREMIUM, *Nees.*

CHAR. GEN.—Flocci subseptati, deorsum in stipitem confluentes, apice liberi, penicillati, formantes capitulum, cui inspersa sporidia simplicia.—*Fries.*

1. *C. glaucum; (Link)*, sporidiis glaucis. VI. Tab. 301. *(Floccaria glauca).*

HAB. In fructibus corruptis, &c.

Trib. IV. TRICHOTHECII.

CHAR.—Flocci rigidi, persistentes, uniformes, continui, quasi contexti (fibræ) sporidiis immixtis.—*Fries.*

GENUS XXI. CHLORIDIUM, *Link.*

CHAR. GEN.—Fibræ aggregatæ, simplices, continuæ. Sporidia simplicia vage inspersa.

1. *C. griseum; (Ehrenb.)*, floccis nigro-fuscis, sporidiis basin versus copiosissimis, oblongo-cylindricis, griseis. IV. Tab. 236. *(Chætopsis Wauchii).*

HAB. In ligno putrido.

ORD. III. MUCOREI.—Trib. I. ACREMONII.

CHAR.—Peridiola diminuta, sporidia referentia, floccis adfixa.—*Fries.*

GENUS ACREMONIUM, *Link.*

CHAR. GEN.—Peridiola (an sporidia?) diminuta, ramulos (verticillatos alternatosve) floccorum decumbentium laxorum liberorum terminantia, globosa, persistentia.—*Fries.*

1. *A. fuscum; (Schmidt)*, fusco-olivaceum; peridiolis globosis alternatis. III. Tab. 124. f. 1.

HAB. In caulibus plantarum emortuarum.

2. *A. verticillatum; (Link)*, album; peridiolis ovatis, verticillatis. III. Tab. 124. f. 2.

HAB. In ligno et truncis emortuis.

GENUS XXIII. STACHYLIDIUM, *Link.*

CHAR. GEN.—Peridiola diminuta, floccis erectis septatis adnata, lateralia, oblonga, sporidiis minimis demum adspersa.—*Fries.*

Obs.—Hæc peridiola dubia sunt: ramuli potius veri, inflati et inanes.

1. *S. terrestre; (Link)*, flocci ramosi, erecti, albi, sporidiolis (vel ramulis ?) clavatis, sporidiis globosis. V. Tab. 257.

HAB. In terra et ligno putrido.

Trib. II. MUCOREI.

CHAR.—Peridiolum distinctum, inflatum, floccis tubulosis septatis impositum. Sporidia distincta.—*Fries.*

GENUS XXIV. EUROTIUM, *Link.*

CHAR. GEN.—Peridiola globosa, sessilia, floccis decumbentibus (raro obliteratis) basi adnata.

1. *E. Herbariorum; (Link)*, gregarium, punctiforme, luteum; floccis albis. III. Tab. 164. f. 1.

HAB. In plantis neglectis herbarii.

2. *E. Rosarum; (Grev.)*, dense effusum; peridiolis viridiscentibus, floccis elongatis profusis (medio ascendentibus) tectis. III. Tab. 164. f. 2.

Erysiphe pannosa, *Link. Sp. Pl. Willd. Cont.* 6. p. 104.

HAB. In foliis, ramis et calycibus *Rosarum;* æstate.

GENUS XXV. MUCOR, *Mich.*

CHAR. GEN.—Peridiola solitaria, æqualia, floccis septatis erectis stipitata, rumpentia aut persistentia.—*Fries.*

1. *M. caninus; (Pers.)*, floccis fertilibus elongatis; peridiolis minutis, lutescentibus. VI. Tab. 305.

HAB. In stercore canino.

GENUS XXVI. ASCOPHORA, *Tode.*

CHAR. GEN.—(Peridiola tenuissima fugacissima?) Sporidia globosa demum (?) nuda, in capitulo inflato externe coacervata; capitulis solitariis, stipitatis, floccis septatis, erectis.

1. *A. Mucedo; (Tode).* V. Tab. 269.

HAB. In variis corporibus putrescentibus.

Trib. III. STILBINI.

CHAR.—Peridium tenue, fugax, cum sporidiis confusum, capituliforme, stipite continuo farcto (contexto) impositum.—*Fries.*

GENUS XXVII. STILBUM, *Tode.*

CHAR. GEN.—Peridiolum fugax, capituliforme, cum sporidiis immersis confluens, gelatinosum, diffluens. Stipes æqualis, farctus.

1. *S. tomentosum; (Schrad.)*, album, parasiticum, peridiolo globoso, stipite albo, glanduloso. V. Tab. 281.

HAB. In *Trichiarum* speciebus.

ORD. IV. TUBERCULARINI.—Trib. I. TUBERCULAREI.

CHAR.—Receptaculum tuberculatum, rotundatum vel effusum, primo innatum, dein erumpens liberatum, sporidiis subdiffluentibus tectum.—*Fries.*

GENUS XXVIII. FUSARIUM, *Link.*

CHAR. GEN.—Receptaculum sessile, rotundatum vel effusum. Sporidia fusiformia, instrata, diffluentia.—*Fries.*

1. *F. tremelloides; (Grev.)*, minutum, ovale, gregarium, rubrum, subgelatinosum; sporidiis longe fusiformibus curvatis. I. Tab. 10.

HAB. In caulibus emortuis *Urticæ dioicæ;* vere.

GENUS XXIX. TUBERCULARIA, *Tode.*

CHAR. GEN.—Receptaculum subglobosum, sursum ampliatum, sporidiis minutis compacto-farinaceis corticatum.—Substantia carnoso-vesiculosa. Color ruber.

1. *T. granulata; (Pers.)*, subrotunda, brevissime stipitata, sordide rubra, demum nigrescens, rugoso-tuberculata. IV. Tab. 187.

HAB. In ramis emortuis arborum.

Trib. II. DERMOSPORII.

CHAR.—Receptaculum subsphæricum, libere evolutum, superficiale, glabrum, e sporidiis incumbentibus corticatum.—*Fries.*

GENUS XXX. ÆGERITA, *Pers.*

CHAR. GEN.—Sporidia globosa, laxe incumbentia, receptaculo rotundato grumoso.

1. *Æ. candida; (Pers.)*, candida, hemisphærica, glabra; sporidiis inæqualibus. V. Tab. 268. f. 1.

HAB. In ligno humido.

2. *Æ. setosa; (Carm. Grev.)*, candida, hemisphærica, setulis elongatis albidis obsita. V. Tab. 268. f. 2.

HAB. In ligno subputrido.

Trib. III. SCORIADEI.

CHAR.—Receptaculum varium e floccis contextum, effiguratum, plus minus distincte horizontaliter expansum.—*Fries.*

GENUS XXXI. CERATIUM, *Alb. et Schwein.*

CHAR. GEN.—Receptaculum membranaceo-plicatum, ramulosum, fluxile, contextum e floccis apice prominulis, sporidia solitaria gerentibus.—*Fries.*

1. *C. hydnoides; (Alb. et Schw.)*, congestum; receptaculum erectum, subconfluens, ramis simplicibus, fasciculatis, obtusis. III. Tab. 168.

HAB. In ligno putrido, raro in Muscis, foliis emortuis, &c.; vere et autumno.

Trib. IV. CEPHALOTRICHEI.

CHAR.—Receptaculum capitatum aut ramosum, clavariæforme, verticaliter elongatum, contextu vesiculoso-floccoso; floccis vel furfure sporidifero obductum.—*Fries.*

GENUS XXXII. ISARIA, *Pers.*

CHAR. GEN.—Receptaculum elongatum, continuum, simplex aut ramosum, siccum, persistens, floccis obductum. Sporidia globosa, floccis inspersa. —*Fries.*

1. *I. microscopica; (Grev.)*, minutissima, solitaria, simplex, clavata, candida, floccis et sporidiis inconspicuis. I. Tab. 3.

HAB. In *Trichia clavata;* vere.

DIVISIO II. GASTEROMYCETES.

ORD. I. SCLEROTIACEI.—Trib. I. PERISPORII.

CHAR.—Peridium confusum, sporangiola includens.—Epiphyti, plantas vivas incolentes.—*Fries.*

GENUS XXXIII. LASIOBOTRYS, *Kunze.*

CHAR. GEN.—Erumpens. Peridia subglobosa, strato unico coarctato, basi fibroso-radiata; intus massa granuloso-gelatinosa cum sporidiis subglobosis farcta.

1. *L. Loniceræ; (Kunze)*, peridiis lævibus, confertissimis, atris, fibris radicantibus simplicibus. IV. Tab. 191.

HAB. In foliis vivis *Loniceræ* specierum; æstate.

GENUS XXXIV. ERYSIPHE, *De Cand.*

CHAR. GEN.—Peridia punctiformia, globosa, carnosa (sporidia magna includentia), floccis decumbentibus radiantibus intricatis imposita.

1. *E. communis; (Link)*, hyphasmate demum effuso, floccis arachnoideis, peridiis sphæricis, sparsis, numerosissimis, tandem nigro-fuscis, capillitio albo adfixis. III. Tab. 134. *(Erysiphe pisi).*

HAB. In variis plantis; æstate.

2. *E. adunca; (Link)*, hyphasmate effuso, maculari, albo, floccis radicantibus simplicibus, rectis, longitudine æqualibus, apice arcte aduncis, demum incurvis elevatis. V. Tab. 296.

HAB. In foliis arborum et fruticum; æstate.

Trib. II. SCLEROTEI.

CHAR.—Peridium confusum obliteratumque, semper clausum, intus obscure vesiculosum et sporidiferum. Sporidia demum emersa.—Plantis mortuis adnati, liberati.—*Fries.*

GENUS XXXV. SCLEROTIUM, *Tode.*

CHAR. GEN.—Rotundatum variumque, peridio similari persistente, sporidiis obscure farctum, undique demum emersis obsoletisque.—*Fries.*

1. *S. durum; (Pers.)*, ovatum, sæpe longitudinaliter confluens, corneum, nigrum, demum striatum, intus albidum. I. Tab. 1.

HAB. In caulibus emortuis *Umbelliferarum*, et aliarum plantarum.

2. *S. quercinum; (Pers.)*, sparsum, depresso-globosum, læviusculum, pallidum, demum nigrescens, intus corneum. II. Tab. 77.

HAB. In foliis Quercuum, &c.

3. *S. scutellatum; (Alb. et Schw.)*, orbiculare, depressum, demum centro subconcavum, inferne puncto centrali byssoideo affixum, fuscum, intus album. III. Tab. 144. f. 1.

HAB. In foliis emortuis arborum; vere.

4. *S. Semen; (Tode)*, sphæricum, albido-lutescens, demum spadiceum, nigrescens et corrugatum, intus album. III. Tab. 144. f. 2.

HAB. In foliis et caulibus plantarum putridis; hyemale et vere.

5. *S. Muscorum; (Pers.)*, gregarium, spongiosum, difforme, lobatum, colore omnino aureo-flavo. II. Tab. 101. *(Sclerotium subterraneum)*.

HAB. Circa radiculas muscorum, præcipue *Trichostomi lanuginosi* in alpibus.

GENUS XXXVI. ACROSPERMUM, *Tode.*

CHAR. GEN.—Elongatum, subclavatum, peridio similari persistente, sporidiis in apice demum tumente emergentibus.

1. *A. compressum; (Tode)*, stipitatum, plerumque lanceolatum, obtusiusculum, subcompressum, nigrescente olivaceum, apice pruinosum. IV. Tab. 182.

HAB. In caulibus et foliis plantarum.

Trib. III. APIOSPORII.

CHAR.—Peridium libere evolutum, extus subvestitum (villosum vel pulverulentum), intus subgelatinosum. Sporidia in centro collecta, immersa. —Superficiales, in plantis mortuis (Lichenumve crustis).—*Fries.*

GENUS XXXVII. ILLOSPORIUM, *Mart.*

CHAR. GEN.—Peridia erumpenti-libera, intus mollia subgelatinosa, sporidiis minimis globosis pellucidis farcta, demum fatiscentia.—Colorata, aggregata.—*Fries.*

1. *I. roseum; (Fries)*, subglobosum, inæquale, grumosum, roseum. I. Tab. 51. *(Palmella rosea)*.

HAB. In lichenibus præcipue *Parmelia stellare* et *Borrera tenella.*

GENUS XXXVIII. CHÆTOMIUM, *Kunze.*

CHAR. GEN.—Peridium subglobosum, pilis opacis undique obsessum, demum dehiscens. Sporidia subpellucida, massa gelatinosæ immixtæ.

1. *C. elatum; (Kunze)*, peridio subturbinato, pilis basi breviusculis simplicibus, superne ramosis, implexis, longissimis; sporidiis ellipticis. IV. Tab. 230.

HAB. In culmis graminum, &c. emortuis et putrescentibus; hyemale et vere.

ORD. II. TRICHODERMACEI.—Trib. I. MYROTHECII.

CHAR.—Peridium sessile, rotundatum, floccosum vel furfuraceo-floccosum, in medio evanescens. Flocci 0. Sporidia compacta, conglobata. Thallus nullus.—*Fries.*

GENUS XXXIX. TRICHODERMA, *Pers.*

CHAR. GEN.—Peridium indeterminatum, e floccis ramosis implexis contextum, demum in medio evanescens. Sporidia minutissima, sicca, conglobata.—*Fries.*

1. *T. viride; (Pers.)*, subrotundum, album, floccis densissime contextis, demum fugacibus; sporidiis viridis copiosis. V. Tab. 271.

HAB. In ligno truncisque mortuis; autumno.

GENUS XL. MYROTHECIUM, *Tode.*

CHAR. GEN.—Peridium indeterminatum, crustoso-floccosum, tandem in medio evanescens. Sporidia minutissima, prima ætate fluidiuscula, dein compacta.—*Fries.*

1. *M. Carmichaelii; (Grev.)*, peridio polymorpho, candido; sporidiis viridibus, nigrescentibus, cylindricis. II. Tab. 140.

HAB. In plantis putrescentibus vel subdecompositis.

Trib. II. PILICRINI.

CHAR.—Peridium subglobosum, tamen figuræ haud stricte limitatæ, crustoso-floccosum, rumpens, primo carnosum. Flocci 0. Sporidia conglobata, cohærentia.

GENUS XLI. ONYGENA, *Pers.*

CHAR. GEN.—Peridium rotundatum, simplex, e floccis contextis irregulariter secedens. Sporidia conglobata, cohærentia.

1. *O. equina; (Pers.)*, gregaria, alba; peridia globoso-depressa; sporidiis ferrugineis. VI. Tab. 343.

HAB. In unguibus equorum, cornubus bovum et ovium, diu in locis umbrosis neglectis.

Trib. III. ÆTHALINI.

CHAR.—Peridium sessile, subeffusum, indeterminatum, fragillimum, membranose cellulare, exteriore floccoso subinde indutum, primo mucilaginosum, mox fatiscendo evanescens. Sporidia congesta, membranulis floccisque intertexta.—Thallo impositi, supra varia corpora effusi.—*Fries.*

GENUS XLII. RETICULARIA, *Bull.*

CHAR. GEN.—Peridium indeterminatum, simplex, membranaceum, rumpens. Sporidia coacervata, floccis basi adnatis, ramosis, intertexta.—*Fries.*

1. *R. minuta; (Grev.)*, gregaria, alba, depresso-ovata, subconfluens, fragillissima, sporidiis ovali-oblongis, nigris, floccis paucis subtilissimis. I. Tab. 40. *(Lycogola minuta).*

HAB. In foliis, ramis, &c. emortuis; autumno.

2. *R. argentea; (Fries)*, magna, effusa, lævis, ovato-depressa vel rotundata, fragillissima, argentea; sporidiis globosis, fusco-purpureis, copiosissimis. II. Tab. 106. *(Lycogola argentea).*

HAB. In ligno putrido, truncis emortuis, &c.; autumno.

GENUS XLIII. ÆTHALIUM, *Link.*

CHAR. GEN.—Peridium difforme, duplex; exterius floccosum, evanescens, interius membranoso-cellulare fatiscens. Sporidia conferta, cellulis membranaceis intercepta.

1. *Æ. flavum; (Link)*, effusum vel subrotundatum, flavum cinnamomum vel pallidum; sporidiis nigrescens. V. Tab. 272.

HAB. In vaporariis, super terram et caules plantarum; etiam in sylvis super truncos, folia et muscos, late effusum; autumno.

GENUS XLIV. SPUMARIA, *Pers.*

CHAR. GEN.—Peridium effiguratum, simplex, celluloso-floccosum, in medio fatiscens; intus sporidia coacervata, plicis membranaceis adscendentibus interstincta.—*Fries.*

1. *S. Mucilago; (Pers.)*, effusa, cinereo-albida, membrana interna plicata, ramoso-cornuta. V. Tab. 267.

HAB. In caulibus, foliis, graminibus, &c.; autumno.

GENUS XLV. ANGIORIDIUM, *Grev.*

CHAR. GEN.—Peridium indeterminatum, simplex (?) papyraceum, fragile, verticali-compressum, rima longitudinali rumpens. Sporidia corpusculis erectis crassis, linearibus (plicis obsoletis?) coacervata.

1. *A. sinuosam; (Grev.)*, VI. Tab. 310.

Reticularia sinuosa, *Bull. Champ.* p. 94. t. 446. f. 3.

HAB. In muscis, ramis et foliis emortuis; autumno.

ORD. III. TRICHOSPERMI.—Trib. I. TRICHIACEI.

CHAR.—Peridium primo mucilaginosum, dein membranaceum, simplex, plus minus fugax. Sporidia floccis distinctis, in capillitium junctis, inspersa vel excepta.—*Fries.*

GENUS XLVI. DICTYDIUM, *Schrad.*

CHAR. GEN.—Peridium membranaceum, e floccis innatis reticulatum et venosum; fatiscendo totum sæpius cancellatum. Sporidia capillitio (innato) cincta.—Stipitata.—*Fries.*

1. *D. cernuum; (Nees)*, gregarium, fusco-purpureum, cernuum, umbilicatum, peridii membrana decidua, floccis persistentibus, validis. III. Tab. 153.

HAB. In ligno putrido.

GENUS XLVII. STEMONITIS, *Gled.*

CHAR. GEN.—Peridium membranaceum, totum evanescens, fugacissimum. Sporidia inspersa floccis reticulatim connexis.—*Fries.*

1. *S. fasciculata;* conferta, elongato-cylindrica, purpureo-fusca, peridio omnino evanescenti. III. Tab. 170.

HAB. In muscis, foliis, lignoque putrido; autumno.

GENUS XLVIII. ARCYRIA, *Pers.*

CHAR. GEN.—Peridium membranaceum, circumcissum, parte superiore fugacissima. Flocci reticulati basi adnata. Sporidia floccis inspersa.

1. *A. punicea; (Pers.)*, congesta, ovato-cylindrica, cinnabarina. III. Tab. 130.
HAB. In ligno putrido; autumno.

2. *A. flava; (Pers.)*, sordide flava, capillitio cylindrico, demum valde elongato; laxissimo, nutante. VI. Tab. 309.
HAB. In ligno putrido; autumno.

GENUS XLIX. TRICHIA, *Hall.*

CHAR. GEN.—Peridium simplex, membranaceum, persistens, apice irregulariter rumpens. Sporidia inspersa, floccis versus basin adnatis, intortis, elastice sese expandentibus.

1. *T. reticulata; (Pers.)*, effusa, castanea, peridio serpenti reticulum irregulare formanti. V. Tab. 266.
HAB. In ligno truncisque; autumno.

Trib. II. PHYSAREI.

CHAR.—Peridium primo pulposum, dein papyraceum vel crustosum, persistens, rumpens. Sporidia coacervata, floccis paucis vage intertexta.—*Fries.*

GENUS L. LICEA, *Schrad.*

CHAR. GEN.—Peridium papyraceum, determinatum, simplex, læve, irregulariter ruptum. Flocci nulli.—*Fries.*

1. *L. fragiformis; (Nees)*, subrotunda, e tubulis adnatis numerosis composita, primo rubra, demum ferruginea; tubulis apici liberis. VI. Tab. 308.
HAB. In Muscis, foliis, deciduis, truncis emortuis, &c.; æstate et autumno.

GENUS LI. PERICHÆNA, *Fries.*

CHAR. GEN.—Peridium papyraceum, regulare, persistens, simplex, læve, demum circumcissum. Flocci rari immixti liberi.

1. *P. populina; (Fries)*, gregaria, peridiis globosis, luteo-fuscis, nitidis, sporidiis luteis. V. Tab. 252.
HAB. In truncis emortuis, præcipue *Populi tremulæ*, sæpissime inter lignum et corticem; vere et autumno.

2. *P. strobilina; (Fries)*, aggregata, peridiis rufo-fuscis, globosis, sporidiis sordide flavicantibus. V. Tab. 275.
HAB. Inter squamas strobilorum emortuorum, *Pini Abietis.*

GENUS LII. CRATERIUM, *Trentep.*

CHAR. GEN.—Peridium determinatum, papyraceum, simplex, læve, epiphragmate clausum. Flocci cum sporidiis excreti.—Stipitata vel sessilia.—*Fries.*

1. *C. leucocephalum; (Ditm.)*, gregarium; peridio cyathiformi, rufescente, operculo tenuissimo, evanescente; floccis sporulisque pallidis; stipite concolore. II. Tab. 65.
HAB. In foliis, ramulisque, &c. emortuis; hyemale.

GENUS LIII. LEOCARPUS, *Link.*

CHAR. GEN.—Peridium determinatum, simplex, membranose crustaceum, irregulariter rumpens, fragile. Flocci vagi versus basin adnati. Sporidia inspersa.

1. *L. vernicosus; (Link)*, obovatus, nitidus, spadiceus, peridio fragili, stipite pallido basi membrana dilatato; sporidiis massa nigra coacervatis. II. Tab. 111.

HAB. In Muscis, foliis, ramulisque emortuis; autumno.

GENUS LIV. PHYSARUM, *Pers.*

CHAR. GEN.—Peridium determinatum, simplex, membranaceum, rumpens, sæpius squamulatim fatiscens. Flocci adnati.—*Fries.*

1. P. *aureum; (Pers.)*, peridio subgloboso, aureo; stipite tenui, elongato, subfuligineo; sporidiis globosis. III. Tab. 124.

HAB. In ligno putrido, truncisque emortuis; vere et autumno.

GENUS LV. LEANGIUM, *Link.*

CHAR. GEN.—Peridium subglobosum, simplex, membranaceum, plerumque stellatim dehiscens. Columella intra peridium, capillitio adnata. Sporidia inspersa.

1. *L. Trevelyani; (Grev.)*, sessile; peridio segmentis plurimis linearibus subregularibus reflexis dehiscenti; columella minima globosa; capillitio nigro. III. Tab. 132.

HAB. In Muscis.

GENUS LVI. DIDYMIUM, *Schrad.*

CHAR. GEN.—Peridium determinatum, duplex, utrumque membranose crustaceum, rumpens. Flocci versus basin adnati.—Stipitata vel sessilia.— —*Fries.*

1. *D. globosum; (Pers.)*, sessile, subglobosum, cinereo-album, farinaceum; peridiis fragilis, sporidiis globosis, columella globosa magna. III. Tab. 122. *(Diderma globosum)*.

HAB. In foliis emortuis, præsertim *Fagorum* et *Quercuum.*

GENUS LVII. LYCOGOLA, *Mich.*

CHAR. GEN.—Peridium regulare, persistens, duplex, exterius in verrucas abiens, interius papyraceum, apice dehiscens. Flocci capillares, vagi. —Sessilia.—*Fries.*

1. *L. miniata; (Pers.)*, gregaria, globosa, miniata, demum fuscescens; sporidiis primo coccineis, pulposis, dein pulverulentis, griseo-purpureis. I. Tab. 38.

HAB. In ligno putrido; autumno et vere.

Trib. III. LYCOPERDINEI.

CHAR.—Peridium primo carnoso-molle, dein firmum, coriaceo-membranaceum persistens, rumpens; semper duplex, sed exterius passim in corticem squamosum, verrucosum vel pulverulentum abit. Flocci copiosi, in stratum fomentarium contexti. Sporidia æqualiter aggregata (nec inde congregata) floccis imposita.—Subterrestres, majores.—*Fries.*

GENUS LVIII. TULOSTOMA, *Pers.*

CHAR. GEN.—Peridium duplex; exterius connatum, in pulverem secedens; interius membranaceum, ostiolo marginato dehiscens. Sporidia floccis inspersa.—*Fries.*

1. *T. brumale; (Pers.)*, stipite subglabro, peridii ore abbreviato. VI. Tab. 340.

HAB. In muris; autumno et hyemale.

GENUS LIX. LYCOPERDON, *Mich.*

CHAR. GEN.—Peridium duplex; exterius adnatum, furfuraceum, sæpe in verrucas abiens; interius membranaceum, apice irregulariter rumpens. Sporidia floccis inspersa.

1. *L. pyriforme; (Willd.)*, cæspitosum, pyriforme, umbonatum, rufo-umbrinum, plus minus stipitatum; stipite cum peridio confluente, verrucis tenuissimis vel subnullis. VI. Tab. 304.

HAB. Ad basin truncorum putridorum et in terra; autumno.

GENUS LX. BOVISTA, *Pers.*

CHAR. GEN.—Peridium duplex; exterius inæqualiter ruptum secedens; interius membranaceum, irregulariter rumpens. Sporidia pedicellata, floccis infixa.

1. *B. gigantea; (Nees)*, magna, globosa, albida, peridio externo glabro. VI. Tab. 336.

HAB. In hortis locisque graminosis; autumno.

GENUS LXI. GEASTRUM, *Mich.*

CHAR. GEN.—Peridium duplex; exterius coriaceum, radiatim rumpens, reflexum, persistens; interius membranaceum ostiolatum.

1. *G. multifidum; (Pers.)*, peridio externo multifido, patente, laciniis inæqualibus; interno pedunculato, globoso, ostiolo conico, fimbriato. VI. Tab. 306.

HAB. In sylvis et locis ericosis; autumno.

Trib. IV. SCLERODERMI.

CHAR.—Peridium suberosum vel coriaceo-corneum, persistens, duplex, exterius plerumque in corticem arcte connatum abiens. Flocci varie conjuncti, sporangiola spuria formantes vel fulcrantes. Sporidia sæpius (nempe in 4 generibus centralibus evidenter) hinc inde congregata.—Terrestres, majores.—*Fries.*

GENUS LXII. SCLERODERMA, *Pers.*

CHAR. GEN.—Peridium suberosum, corticato-verrucosum, radicans, irregulariter rumpens. Sporidia in glomerulos coacervata floccis inspersa.—Subsessilia.—*Fries.*

1. *S. verrucosum; (Pers.)*, gregarium, flavo-rufescens, stipite submagno, crasso, basi dilatato lacunoso; peridio apice dehiscente. I. Tab. 48.

HAB. In sylvis et locis graminosis; autumno.

2. *S. Cepa; (Pers.)*, subrotundum, depressum, peridio nunc læviusculo nunc reticulato-verrucoso vel muricato, flavo-fusco, basi mamilloso, subarrhizo; stipite nullo. II. Tab. 66.

HAB. In sylvis locisque graminosis; autumno.

ORD. IV. ANGIOASTRES.—Trib. I. CARPOBOLI.

CHAR.—Sporangium solitarium, discretum, e peridio elastice protrusum.—*Fries.*

GENUS LXIII. SPHÆROBOLUS, *Tode.*

CHAR. GEN.—Peridium (primo velo fugacissimo tectum) duplex; exterius carnosum, demum stellatim fissum; interius membranaceum, demum elastice inversum, sporangium globosum, solidum projiciens. Sporidia media coacervata.

1. *S. stellatus; (Tode)*, globosus, flavo-pallescens, ore regulari stellato-dentato.—*Fries.* III. Tab. 158.

HAB. In ligno putrido; autumno.

Trib. II. NIDULARIACEI.

CHAR.—Sporangia libera, peridio inclusa.—*Fries.*

GENUS LXIV. CYATHUS, *Pers.*

CHAR. GEN.—Peridium commune simplex, primo clausum demum apertum. Sporangia lenticularia, carnosa, sporidiis in medio coacervatis.

1. *C. Crucibulum; (Pers.)*, peridio cylindrico-campanulato, demum lignoso, extus ochraceo, subtomentoso, intus lævi. I. Tab. 34.

HAB. In ligno mortuo, &c.; per annum.

Trib. III. PHALLODEI.

CHAR.—Peridio rupto, receptaculum discretum apertum pronascitur. Sporidia in strato mucoso diffluente.—*Fries.*

GENUS LXV. PHALLUS, *Mich.*

CHAR. GEN.—Receptaculum stipitatum, capituliforme, integrum, superne strato mucoso sporidifero tectum.—*Fries.*

1. *P. fœtidus; (Lam.)*, peridio globoso-ovato, receptaculo ovato, celluloso, strato mucoso nigro-viride tecto, stipite albido, cribroso. IV. Tab. 213. et 214.

HAB. In sylvis; æstate.

DIVISIO III. PYRENOMYCETES.

ORD. I. XYLOMACEI.

CHAR.—Perithecium rumpens, nucleus sporidiis farctus.—*Fries.*

GENUS LXVI. ACTINOTHYRIUM, *Kunze.*

CHAR. GEN.—Perithecium scutiforme astomum, radiato-fibrosum, demum totum secedens. Sporidia fusiformia simplicia.

1. *A. Graminis; (Kunze).* IV. Tab. 218.

HAB. In foliis culmisque Graminum emortuorum; vere.

ORD. II. CYTISPOREI.

CHAR.—Perithecium ostiolatum; nucleus sporidiis farctus; dissolutus.—*Fries.*

GENUS LXVII. CEUTHOSPORA, *Fries.*

CHAR. GEN.—Perithecium cellulare (solitarium vel plura) astomum, in tuberculo vesiculoso-carnoso reconditum, nucleo dissoluto.—Nucleus ater, primo latens.—*Fries.*

1. *C. phacidioides; (Grev.)*, orbicularis, plana, nigra, nitida, peritheciis demum in lacinias pallidas, breves, 3–5, dehiscentibus; sporidiis cylindraceis. V. Tab. 253.

HAB. In foliis delapsis *Ilicis aquifolii.*

2. *C. Lauri; (Grev.)*, sparsa vel gregaria; perithecio innato, rufescente-nigro, obtuse conico, demum in lacinias 3–4, acutas, erectas, dehiscenti; nucleo solitario, sporidiis cylindricis. V. Tab. 254.

HAB. In foliis emortuis *Lauri nobilis.*

3. *C. phæocomes; (Grev.)*, sparsa, innata, depresso-hemisphærica, apice setulis nigris rigidis divergentibus instructa. II. Tab. 69. *(Cryptosphæria capillata).*

HAB. In foliis emortuis Graminum; autumno.

GENUS LXVIII. SEPTORIA, *Fries.*

CHAR. GEN.—Perithecium innatum, ostiolo simplici. Sporidia cylindrica, pellucida, septata, cirrho difformi erumpentia.

1. *S. Ulmi; (Fries)*, perithecia aggregata; sporidiis 3–4-septatis; cirrhis sæpe demum effusis. II. Tab. 112.

HAB. In foliis languescentibus et emortuis *Ulmorum;* autumno.

GENUS LXIX. CYTISPORA, *Fries.*

CHAR. GEN.—Perithecium celluloso-multiloculare, cellulis difformibus, ostiolo communi junctis. Sporidia simplicia per ostiolum elongatum cirrhose propelluntur.—Immersæ.—*Fries.*

1. *C. leucosperma; (Fries)*, conceptaculo nullo, cellulis nigris circinantibus, disco plano albido, cirrho albo.—*Fries.* I. Tab. 20. *(Næmaspora Rosarum).*

HAB. In ramis *Fagi*, *Rosarum*, &c.; per annum.

GENUS LXX. SPHÆRONEMA, *Fries.*

CHAR. GEN.—Perithecium corneum, innato-superficiale, includens in sacculo tenuissimo sporidia mucosa, dein erumpentia in globulum fatiscentem indurata.—*Fries.*

1. *S. subulatum; (Fries)*, Peritheciis conico-subulatis, acutis, lutescentibus, subpellucidis; globulo pallido. IV. Tab. 189.

HAB. Ad *Agaricos* emortuos et exsiccatos; autumno.

ORD. III. PHACIDIACEI.—Trib. I. PHACIDEI.

CHAR.—Perithecium subdimidiatum, demum apertum, nucleo nudo.—Subinnati.—*Fries.*

GENUS LXXI. EXCIPULA, *Fries*.

CHAR. GEN.—Perithecium subinnatum, orbiculare, margine inflexo clausum, dein ore orbiculari discoideo-apertum.—*Fries.*

1. ***E. Rubi**; (Fries)*, innato-erumpens, peritheciis subcorneis lævibus, atris, disco aperto, demum planiusculo, pallescente. VI. Tab. 334.

HAB. In ramis mortuis *Rubi Idæi;* per annum.

GENUS LXXII. HYSTERIUM, *Tode, Fries.*

CHAR. GEN.—Perithecium adnatum innatumve, ellipticum elongatumve, rima longitudinali hians, demum subapertum.—*Fries.*

* *Denudata.*

1. ***H. pulicare**; (Pers.)*, superficiale, ellipticum oblongumve, obscure longitudinaliter striatum, atrum, labiis obtusis, disco lineari. III. Tab. 167. f. 1.

HAB. In truncis et ligno mortuo; per annum.

2. *H. varium; (Fries)*, superficiale, lineare oblongum vel subrotundum, obtusum, nigrum, labiis obtusis, demum apertum. IV. Tab. 233.

HAB. In truncis *Quercuum;* per annum.

3. *H. lineare; (Fries)*, subimmersum, confertum, parallelum, lineare, nigrum, labiis tumidulis, lævibus, disco lineari.—*Fries.* III. Tab. 167. f. 2.

HAB. In ligno; per annum.

** *Erumpentia.*

4. *H. Fraxini; (Pers.)*, erumpens, convexum, tumidum, oblongo-ellipticum, nigerrimum, modo concentrico dispositum, disco lineari. II. Tab. 72.

HAB. Ad ramos emortuos *Fraxini;* hyemale et vere.

*** *Subtecta.*

5. *H. Rubi; (Pers.)*, elongatum, acutum, nigrum, subinnatum, læve, nitidum, demum hians, intus griseum. I. Tab. 24.

HAB. In ramis emortuis *Ruborum;* vere.

6. *H. Pinastri; (Schrad.)*, epiphyllum, innato-immersum, ovali-oblongum, læve, nigricans, ore elliptico apertum, disco livido.—*Fries.* I. Tab. 60.

HAB. In foliis emortuis *Pinorum*; hyemale et vere.

β, juniperinum; (Fries), prominens, ellipticum, labiis convexis tumidis. I. Tab. 26. *(H. Juniperi).*

HAB. In foliis mortuis *Juniperi communis;* autumno.

7. *H. melaleucum; (Fries)*, hypophyllum, minutum, nigrum, rotundato-ellipticum, læve, labiis subconniventibus, pallidis. II. Tab. 88.

HAB. In foliis emortuis *Vaccinii Vitis Idææ;* autumno.

**** *Xyloma.*

8. *H. culmigenum; (Fries)*, innatum, elliptico-oblongum, prominens, læve, nigrum, demum disco pallido elliptico apertum. II. Tab. 87. *(H. Graminum).*

HAB. Ad culmos foliaque *Graminum* emortuorum.

9. *H. maculare; (Fries)*, maculæ exaridæ pallidæ aggregatum, subrotundo-ellipticum, atrum, margine depresso pallidiore. III. Tab. 129. f. 2.

HAB. In foliis emortuis *Arborum variorum.*

10. *H. foliicolum; (Fries)*, innatum, sparsum, ellipticum, obtusum, tumidulum, læve, nudum, nigrum, rima longitudinali depressa.—*Fries.* III. Tab. 129. f. 1.

HAB. In foliis emortuis arborum, " præcipue e familia *Rosacearum;*" vere.

Genus LXXIII. PHACIDIUM, *Fries*.

Char. Gen.—Perithecium subinnatum, orbiculare, a centro versus ambitum in lacinias plures rumpens, nucleo disciformi.—*Fries*.

1. *P. coronatum; (Fries)*, orbiculare, subhemisphærico-depressum, nigrum, perithecio in lacinias acutas erectas dehiscenti, disco pallide flavescenti. I. Tab. 52.

Hab. Ad folia exsiccata *Quercuum* et *Fagorum;* autumno et vere.

Genus LXXIV. RHYTISMA, *Fries*.

Char. Gen.—Perithecium innatum, difforme, rima flexuosa, in frustula transversalia secedentia rumpens, nucleo placentæformi.—*Fries*.

1. *R. acerinum; (Fries)*, innatum, macula difformi confluenti, rugosa, in labia flexuosa dehiscenti, disco pallescente. II. Tab. 118. f. 1. *(Xyloma acerinum)*.

Hab. Ad folia acerina; autumno.

2. *R. salicinum; (Fries)*, innatum, crassum, tuberculosum, subnitens, squamoso-rumpens, disco lutescente-stramineo, intus album.—*Fries*. II. Tab. 118. f. 2. *(Xyloma salicinum)*.

Hab. Ad folia salicina; autumno.

Trib. II. Cliostomei.

Char.—Perithecium integrum, adnatum, rimis arcte clausis dehiscens.—Superficiales.—*Fries*.

Genus LXXV. LOPHIUM, *Fries*.

Char. Gen.—Perithecium compressum, sæpe elongatum, rima longitudinali arcte clausa dehiscens.—*Fries*.

1. *L. mytilinum; (Fries)*, perithecio brevi-pedicellato, sursum valde dilatato, transversim striato, atro-nitente. III. Tab. 177. f. 1.

Hab. In truncis lignoque denudato *Pinorum*.

2. *L. elatum; (Grev.)*, stipitatum, compressum, nigrum, transversim striatum, ex stipite in perithecio elongato cuneiformi dilatatum. III. Tab. 177. f. 2.

Hab. In ligno mortuo.

Trib. III. Dermei.

Char.—Nucleus ascigerus disciformis (cum hymenio Hymenomycetum analogus), superimpositus strato floccoso (cum receptaculo Hymenomycetum comparando) plus minus distincto, quod cum perithecio infero lateralique coriaceo connatum.—*Fries*.

Genus LXXVI. HETEROSPHÆRIA, *Grev*.

Char. Gen.—Perithecium integrum, limbo libero subclausum, cum strato discigero connatum. Asci persistentes. Sporidia humore in globulum collecta secernentes.

1. *H. Patella; (Grev.)*, peritheciis erumpentibus, atris, globosis, apice umbilicatis, striato-plicatis, subclausis. II. Tab. 103.

Hab. In caulibus plantarum mortuarum, præcipue *Umbelliferarum;* per annum.

GENUS LXXVII. CENANGIUM, *Fries*.

CHAR. GEN.—Perithecium coriaceo-corneum, primo clausum, demum ore subconnivente apertum, a strato discigero tenui distinctum. Asci subfiliformes, persistentes. Sporidia explodentes.—Fusco-nigra vel atra.—*Fries*.

1. *C. ferruginosum*; (*Fries*), gregarium, coriaceo-membranaceum, subsessile, rugosum, subpruinosum, cervino-nigrescens, ore compresso, inflexo, humido patulo, disco lutescente.—*Fries*. IV. Tab. 197.

HAB. Ad ramos *Pini sylvestris*; autumno.

Trib. IV. PATELLAREI.

CHAR.—Perithecium apertum marginatum, operculo vel velo tectum.—*Fries*.

GENUS LXXVIII. TYMPANIS, *Tode*.

CHAR. GEN.—Perithecium cyathiforme, marginatum, apertum, superne membrana tenui fatiscente tectum. Asci filiformes, fixi.—Erumpentes. —*Fries*.

1. *T. conspersa*; (*Fries*), cæspitosa, perithecia primo clausa, sphæriæformia, atra, mox aperta, e velo fatiscente albo-pulverulenta. VI. Tab. 338.

HAB. Ad ramos mortuos arborum, præsertim *Sorbi Aucupariæ*.

ORD. IV. SPHÆRIACEI.—Trib. I. DOTHIDINI.

CHAR.—Ostiolum subtile subporosum vel nullum. Velum nullum, quare ubi perithecia confluunt, ipsa obliterantur, in stroma celluliferum abeunt.—Innati epiphyti.—*Fries*.

GENUS LXXIX. DOTHIDEA, *Fries*.

CHAR. GEN.—Nucleus referens cellulas stromati immersas. Perithecium cum stromate confusum, (dimidiatum ?). Asci erecti, diu persistentes. —Subinnata.—*Fries*.

1. *D. Ulmi*; (*Fries*), epiphylla, subrotunda, confluens, convexa, cinereo-nigra, intus nigra, cellulis albis, ostiolis granulæformibus.—*Fries*. IV. Tab. 200. f. 1.

HAB. In foliis mortuis *Ulmorum*; autumno.

2. *D. betulina*; (*Fries*), epiphylla, angulato-difformis, subconfluens, tuberculosa, atro-nitens, intus nigra, cellulis albis.—*Fries*. IV. Tab. 200. f. 2.

HAB. Ad folia viva et mortua *Betulæ albæ* et *nanæ*.

3. *D. Robertiani*; (*Fries*), epiphylla, subaggregata, hemisphærica, lævis, nitida, nigerrima, intus alba. III. Tab. 146. f. 1.

HAB. Ad folia viva *Geranii Robertiani*.

4. *D. alnea*; (*Fries*), amphigena, regulariter sparsa, subrotunda, nigra, nitida, collapsa, rugoso-plicata. III. Tab. 146. f. 2.

HAB. Ad folia viva *Alni glutinosæ*.

GENUS LXXX. POLYSTIGMA, *Pers. Dec.*

CHAR. GEN.—Perithecia distincta, astoma, in stromate innato, carnoso, immersa. Asci nulli? Sporidia globosa.—Epiphyllæ, innatæ, rubræ.

1. *P. rubrum*; (*Pers.*), planum, aurantiaco-rubrum; sporidiis inæqualibus, globosis. II. Tab. 120.

HAB. In foliis *Pruni spinosæ*; æstate et autumno.

GENUS LXXXI. VERMICULARIA, *Tode.*

CHAR. GEN.—Perithecium depressum, astomum, lacerato-dehiscens. Asci (vel sporidia), annulati, vermiculati.—Setis tectæ.—*Fries.*

1. *V. trichella*; (*Fries*), sparsa, minima; peritheciis astomis depresso-ovatis, nigris, pilis longissimis divergentibus vertice obsessis. VI. Tab. 345.

HAB. In foliis emortuis *Hederæ Helicis*; vere.

Trib. II. SPHÆRINI.

CHAR.—Ostiolum regulare plus minus prominens, sæpius rotundum, raro compressum. Stroma adnatum.—In corporibus variis, vix vivis.—*Fries.*

GENUS LXXXII. SPHÆRIA, *Haller.*

CHAR. GEN.—Perithecia rotundata, integra, apice ostiolo instructa. Asci in fundo convergentes, diffluentes.—*Fries.*

a. *Foliicolæ.*

1. *S. tubæformis*; (*Tode*), peritheciis tectis, depresso-globosis, glabris, ostiolo rostellato, stricto, subæquali, fulvo. VI. Tab. 335. f. 1.

HAB. In foliis emortuis arborum; hyemale et vere.

2. *S. Gnomon*; (*Tode*), peritheciis nigris, globosis, rumpentibus, demum collapsis, ostiolo elongato, filiformi-clavato, nigro, recto. VI. Tab. 335. f. 2.

HAB. In foliis emortuis *Coryli Avellanæ*; hyemale et vere.

b. *Caulicolæ.*

3. *S. acuta*; (*Hoffm.*), gregaria; peritheciis subglobosis, lævibus, atris, nitidis, ostiolo rostellato, stricto, cylindrico, obtuso. IV. Tab. 239. f. 1. (*Cryptosphæria acuta*).

HAB. In caulibus herbarum; vere.

4. *S. Doliolum*; (*Pers.*), gregaria, peritheciis conico-rotundatis, nigris, nitidis, medio plicis 2–3 irregulariter transverseque constrictis, ore obtuso papilliformi. IV. Tab. 239. f. 2. (*Cryptosphæria Doliolum*).

HAB. Ad caules herbarum majorum; vere.

c. *Subtectæ.*

5. *S. Pinastri*; (*Dec.*), sparsa; peritheciis tectis, depressis, nigris, ostiolo brevissimo, obtuso, incluso, epidermidem perforanti; sporidiis nudis, minutissimis. I. Tab. 13. (*Cryptosphæria Taxi*).

HAB. In foliis emortuis *Pinorum*; vere.

6. *S. Tamariscinis*; (*Grev.*), sparsa, convexa, tecta, peritheciis globosis, ostiolo, obtuso, brevissimo, incluso, epidermidem perforanti. I. Tab. 45. (*Cryptosphæria Tamariscinis*).

HAB. In ramis emortuis *Tamariscis germanicæ*; hyemale.

7. *S. millepunctata*; (*Grev.*), peritheciis numerosis, immersis, subregulariter sparsis, globosis, nigris, ostiolo perbrevi, obtuso, puncto nigro exerto; sporidiis curvatis. IV. Tab. 201. (*Cryptosphæria millepunctata*).

HAB. Ad ramos mortuos *Fraxini excelsioris*; per annum.

d. *Denudatæ.*

8. *S. myriocarpa; (Fries)*, nuda, conferta, ovato-globosa, atra, nitida, peritheciis minimis, lævibus, astomis, demum apice pertusis. III. Tab. 152. f. 1.

HAB. In lignis ad terram dejectis; autumno.

9. *S. Pulvis-pyrius; (Pers.)*, nuda, conferta, atra, peritheciis globosis, rugosiusculis, medio plerumque sulcatis. III. Tab. 152. f. 2.

HAB. In ligno mortuo, vulgaris; per annum.

10. *S. verrucosa; (Grev.)*, globosa, nuda, nigra, sparsa, rimoso-verrucosa. I. Tab. 39

HAB. In pileo subexsiccato *Polypori abietini;* autumno et hyemale.

11. *S. spermoides; (Hoffm.)*, globosa, conferta, nigra, subrugosa, ostiolo minuto obsoleto, aut indistincte papillato. I. Tab. 6.

HAB. Ad truncos putrescentes; fere per annum.

12. *S. lignaria; (Grev.)*, minuta, sparsa vel subcongesta, peritheciis nigris, ovatis, setoso-rugosis, astomis; sporidiis ovalibus. II. Tab. 82.

HAB. In ligno exsiccato; per annum.

13. *S. aurea; (Grev.)*, nuda, effuso-conferta, peritheciis subastomis, ovatis, aurantiacis. I. Tab. 47.

HAB. In pileo semiputrescenti *Polypori squamosi;* autumno.

14. *S. sanguinea; (Sibth.)*, sessilis, minuta, sparsa, peritheciis mollis ovatis lævibus, aurantiaco-sanguineis, ostiolo papilliformi. III. Tab. 175. f. 1.

HAB. In ligno et ad truncos; vere.

15. *S. episphæria; (Tode)*, nuda, minuta, sessilis, peritheciis mollis, sparsis, lævis, sanguineis, subglobosis, collabescentibus, ostiolo papilliformi. III. Tab. 175. f. 2.

HAB. In *Sphæria stigmate*, &c.; hyemale et vere.

16. *S. affinis; (Grev.)*, sparsa, sessilis, peritheciis aurantiacis, lævibus, globosis, astomis, basi albidis, filamentosis. IV. Tab. 186. f. 1. *

HAB. In frondem *Bangiæ atro-virentis*, (Lyngb.); autumno.

17. *S. Peziza; (Tode)*, conferta, mollis, peritheciis globosis, lævibus, aurantiaco-rubellis, collabescendo concavis, basi subpilosis, ostiolo papilliformi. IV. Tab. 186. f. 2.

HAB. In ligno putrescenti; autumno et vere.

e. *Byssisedæ.*

18. *S. rosella; (A. & S.)*, peritheciis gregariis, globoso-ovatis, papillatis, sanguineo-roseis, subiculo tomentoso dilutiori insidentibus. III. Tab. 138.

HAB. In ligno et foliis emortuis mucidis; autumno.

19. *S. aurantia; (Pers.)*, conferta, peritheciis subrotundis, aurantiaco-rubris, e subiculo effuso aurantiaco emergentibus, ostiolo crasso papilliformi. II. Tab. 78. *Cryptosphæria aurantia)*.

HAB. Ad fungos suberosos putrescentes; autumno.

f. *Confertæ.*

20. *S. Coryli; (Batsch)*, peritheciis atris, distinctis, in circulum dispositis, ostiolis erumpentibus spinulosis, basi fimbria albicante cinctis. VI. Tab. 330.

HAB. In foliis vivis *Coryli Avellanæ;* æstate.

g. *Cæspitosæ.*

21. *S. elongata; (Fries)*, nigra, stromate longissimo ambiente effuso, peritheciis primo immersis, dein erumpentibus, subcæspitosis, globosis, circa ostiolum papillæforme annulato-depressis.—*Fries.* IV. Tab. 195. *(Cucurbitaria elongata)*.

HAB. Ad ramos *Ulicis europæi*, &c.; per annum.

22. *S. Berberidis; (Pers.)*, erumpens, peritheciis congestis, cæspitosis, rotundis, nigris, astomis, rimoso-rugosis, stromate sessilibus. II. Tab. 84. *(Cucurbitaria Berberidis).*

Hab. Ad ramos mortuos *Berberidis vulgaris;* vere.

23. *S. Purtoni; (Grev.)*, cæspitosa, erumpens, peritheciis globosis, punctatis, rubris demum nigrescentibus, et collapsis, primo stromate immersis. I. Tab. 50. *(Cucurbitaria Pinastri).*

Hab. Ad ramos mortuos *Pini Abietis;* autumno.

24. *S. cinnabarina; (Tode)*, cæspitosa, peritheciis confertis, globosis, granulosis, cinnabarinis, ore vix papilliformi. III. Tab. 135. *(Cucurbitaria cinnabarina).*

Hab. Ad ramos mortuos arborum; per annum.

h. *Circinatæ.*

25. *S. pulchella; (Pers.)*, circinata, peritheciis globosis, decumbentibus, ostiolis convergentibus, longissimis, flexuosis, obtusis. II. Tab. 67. *(Cryptosphæria pulchella).*

Hab. Sub cortice *Betulæ albæ* et *Pruni Cerasi;* perennis.

i. *Versatiles.*

26. *S. elliptica; (Grev.)*, distincta, transversim erumpens, utrinque acuta, fusco-ferruginea, interne nigra, peritheciis latentibus, globosis. II. Tab. 114. *(Stromatosphæria elliptica).* An *S. lanciformis*, Fries?

Hab. Ad truncos *Betulæ albæ;* per annum.

k. *Lignosæ.*

27. *S. flavo-virens; (Pers.)*, inæqualis, rugosa, nigra, intus pulverulenta, flavo-virens, peritheciis subglobosis, ostiolis prominulis, rotundatis. VI. Tab. 320. *(Stromatosphæria flavo-virens).*

Hab. Ad ramos mortuos arborum; per annum.

28. *S. disciformis; (Hoffm.)*, erumpens, orbicularis, plana, lævis, nigrescens, intus pallida; peritheciis ostiolis punctiformibus. VI. Tab. 314. *(Stromatosphæria disciformis).*

Hab. Ad ramos, præcipue *Fagi sylvaticæ;* per annum.

29. *S. undulata; (Pers.)*, effusa, interrupta, undulata, atra, intus alba, ostiolis subrotundis prominulis.—*Fries.* IV. Tab. 223. f. 1. *(Stromatosphæria undulata).*

Hab. Ad ramos mortuos; per annum.

30. *S. Stigma; (Hoffm.)*, ambiente effusa, applanata, lævis, demum nigra, ostiolis subimmersis, planiusculis.—*Fries.* IV. Tab. 223. f. 2. *(Stromatosphæria Stigma).*

Hab. Ad ramos mortuos; per annum.

l. *Glebosæ.*

31. *S. deusta; (Hoffm.)*, effusa, crassa, undulato-rugosa, junior cinereo-albida, pulverulenta, dein rigida, fusco-nigra, peritheciis ovatis immersis. VI. Tab. 324. f. 2. *(Hypoxylon deustum).*

Hab. Ad truncos languescentes; vere—autumno.

m. *Connatæ.*

32. *S. rubiginosa; (Pers.)*, late effusa, subcrassa, rubiginosa, intus nigra, pulverulenta, peritheciis vix prominulis. II. Tab. 110. *(Stromatosphæria rubiginosa).*

Hab. In lignis et ad truncos.

33. *S. citrina; (Pers.)*, carnosa, effusa, tenuis, citrina, peritheciis strato byssoideo subimmersis, ostiolis prominulis. IV. Tab. 215.

Hab. Ad terram, truncos putridos, &c.; autumno.

n. *Pulvinatæ.*

34. *S. fragiformis; (Pers.)*, globosa, miniato-rubiginosa, intus atro-nitens, peritheciis periphæricis, ostiolis plus minus prominulis. III. Tab. 136. *(Stromatosphæria fragiformis).*

Hab. Ad ramos mortuos *Fagi sylvaticæ;* autumno.

35. *S. concentrica; (Bolt.)*, globoso-difformis, fusco-nigricans, intus stratis concentricis zonata, peritheciis oblongis periphæricis immersis. VI. Tab. 324. f. 1. *(Hypoxylon concentricum).*

Hab. Ad truncos; per annum.

o. *Poronia.*

36. *S. punctata; (Sow.)*, stipitata, turbinata, disco truncato, albo, nigro-punctato, stipite nigrescenti. VI. Tab. 327. *(Hypoxylon punctatum).*

Hab. In fimo, præcipue equino; per annum.

p. *Cordyceps.*

37. *S. polymorpha; (Pers.)*, carnoso-suberosa, gregaria, turgida, obtusa, varia, ex albida nigra, clavula undique peritheciis cincta. IV. Tab. 237. *(Xylaria polymorpha).*

Hab. Ad truncos vetustos; vere, autumno.

38. *S. gracilis; (Grev.)*, stipitata, coriaceo-carnosa, fusca, stipite elongato, æquali, flexuoso, clavula lævi, ovato-rotundato, peritheciis oblongis, pallidis. II. Tab. 86. *(Xylaria gracilis).*

Hab. Ad terram, locis muscosis humidis.

39. *S. typhina; (Pers.)*, in culmis graminum parasitica, elongata, cylindrica, aurantiaca, carnosa, punctata, peritheciis ovatis, demum ore prominenti, ascis utrinque attenuatis. IV. Tab. 204. *(Stromatosphæria typhina).*

Hab. Ad culmos graminum vivos; æstate.

Omnino effusa, sed sphæriis stipitatis carnosis, maxime affinis.

DIVISIO IV. HYMENOMYCETES.

ORDO I. TREMELLINI.—Trib. I. HYMENULI.

CHAR.—Coriaceo- vel cereaceo-gelatinosi. Sporidia obsoleta.—*Fries.*

GENUS LXXXIII. AGYRIUM, *Fries.*

CHAR. GEN.—Receptaculum homogeneum, ceraceum, humidum, gelatinosum, innato-sessile, sphæricum, læve, undique glabrum et fructificans, superficie in sporidia demum fatiscente.—*Fries.*

1. *A. rufum; (Fries)*, gregarium, convexum vel sphæricum, compactum, humidum, incarnatum, siccum rufo-fuscum.—*Fries.* IV. Tab. 232.

Hab. In ligno sicco Pinuum; per annum.

Trib. II. TREMELLEI.

CHAR.—Gelatinosi. Hymenium amphigenum nudum.—*Fries.*

GENUS LXXXIV. PYRENIUM, *Tode.*

CHAR. GEN.—Receptaculum subcarnosum, demum inflatum (cavum), contextu floccoso. Sporidia in ambitu nidulantia.—*Fries.*

1. *P. lignatile; (Fries)*, subglobosum, sæpissime sublobatum, albo-lateritium. V. Tab. 276.

HAB. Ad truncos mortuos.

GENUS LXXXV. DACRYMYCES, *Nees*.

CHAR. GEN.—Receptaculum homogeneum, floccis assurgentibus sporidiisque instratis intus refertum.—*Fries.*

1. *D. stillatus; (Nees)*, gregarius, parvus, rotundatus, convexus, lævis, luteo-aurantiacus. III. Tab. 159.

HAB. Ad lignum; vere.

ORD. II. CLAVATI.—Trib. I. PISTILLARINI.

CHAR.—Asci obliterati. Substantia gelatinosa vel cornea, ceraceave.—*Fries.*

GENUS LXXXVI. PISTILLARIA, *Fries.*

CHAR. GEN.—Simplex, ceracea, hymenio ascis destituto sporidiis consperso.—*Fries.*

1.? *P. setipes; (Grev.)*, minuta, alba, clavula oblongo-dilatata vel clavata, stipite filiformi piloso. I. Tab. 49. *(Clavaria trichopus).*

HAB. In caulibus foliisque emortuis, &c.

Trib. II. CLAVULATI.

CHAR.—Hymenium confluens. Asci breves. Substantia carnosa.—*Fries.*

GENUS LXXXVII. TYPHULA, *Fries.*

CHAR. GEN.—Simplex vel ramosa, cylindrica, hymenio tenui, stipitem capillarem terminante.—Apex tantum hymenio tegitur; asci perexigui.—*Fries.*

1. *T. phacorhiza; (Fries)*, simplex, alba, elongata, filiformi-subulata; hymenio cum stipite confluenti; tuberculo rotundo, compresso, nigro-fusco. II. Tab. 93. *(Phacorhiza filiformis).*

HAB. Ad terram inter folia decidua; autumno.

2. *T. erythropus; (Fries)*, parva, gregaria, hymenio lævi, albo, lineari, stipite elongato, filiformi, rubro. I. Tab. 43. *(Phacorhiza erythropus).*

HAB. In foliis caulibusque, &c. emortuis; autumno.

GENUS LXXXVIII. CLAVARIA, *Vaill.*

CHAR. GEN.—Ramosa vel simplex, cylindrica, homogenea, hymenio totam superficiem occupante.—Stipes vix ullus distinctus. Asci distincti.—*Fries.*

* *Simplices.*

1. *C. uncialis; (Grev.)*, alba, gregaria, clavata, obtusa, teres, lævis, non fragilis, ad basin nuda valde attenuata. II. Tab. 98.

HAB. Ad caules herbarum putridos; autumno.

2. *C. fragilis; (Holmsk.)*, simplex, aurea vel pallida, solida, valde fragilis, flexuosa, basin versus attenuata, ætate subrugosa. I. Tab. 37.

HAB. Ad terram in sylvis et ericetis; autumno.

** *Ramosæ.*

3. *C. rugosa; (Bull.)*, simplex vel simpliciter ramosa, tenax, incrassata, rugosa, albida, ramis paucis difformibus obtusis. VI. Tab. 328.

Hab. Ad terram in sylvis humidis; autumno.

4. *C. cinerea; (Bull.)*, cinerascens vel subpurpurascens, caule crasso, ramosissimo, ramis inæqualibus, subincrassatis, rugosis, solidis, apicibus obtusis. II. Tab. 64.

Hab. Ad terram in sylvis et locis umbrosis graminosis; autumno.

Varietates, VI. Tab. 321.

5. *C. cristata; (Pers.)*, cæspitosa, ramosa, lævis, glabra, albida dein fuliginea, ramis superne dilatatis, cristatis, acutis.—*Fries.* IV. Tab. 190.

Hab. Ad terram in sylvis; autumno.

6. *C. abietina; (Pers.)*, obscure ochracea, ramosissima, caule brevi basi albo-tomentoso, ramis confertis, erectis, teretibus, subrugosis, ramulis acutis, furcatis. II. Tab. 117.

Hab. Ad terram in pinetis; autumno.

Trib. I. MITRULINI.

CHAR.—Hymenium discretum. Asci subelongati.—*Fries.*

GENUS LXXXIX. GEOGLOSSUM, *Pers.*

CHAR. GEN.—Hymenium breve, claviforme, stipitatum, discretum, ascis elongatis.—Genus colore nigro vel obscure viridi.

1. *G. hirsutum; (Pers.)*, hirsutum, nigrum. IV. Tab. 185.

Hab. Ad terram in locis humidis graminosis; autumno.

2. *G. viscosum; (Pers.)*, glabrum, nigrum, viscosum, hymenio tereti, cum stipite subconfluenti. I. Tab. 55.

Hab. In pratis montosis; autumno.

3. *G. viride; (Pers.)*, viride, hymenium distinctum, stipite squamuloso. IV. Tab. 211.

Hab. In graminosis, paludosis, &c.; autumno.

GENUS XC. MITRULA, *Fries.*

CHAR. GEN.—Hymenium ovatum, inflatum, basi stipitem discretum arcte ambiens.—*Fries.*

1. *M. uliginosa; (Grev.)*, subgregaria, pileo flavo, plus minus ovato, obtuso, stipite pallido. VI. Tab. 312. *(Leotia uliginosa).*

Hab. Ad muscos et folia putrida in paludosis; vere, æstate et autumno.

2. *M. Abietis; (Fries)*, gregaria, parva, pileo ovato, flavo-ferrugineo, stipite gracili basi attenuato flexuosoque. II. Tab. 81. *(Leotia Mitrula).*

Hab. Inter folia decidua in pinetis; æstate et autumno.

GENUS XCI. SPATHULEA, *Fries.*

CHAR. GEN.—Hymenium compressum, discretum, utrinque in stipitem decurrens.—*Fries.*

1. *S. flavida; (Pers.).* III. Tab. 165. *(Spathularia flavida).*

Hab. Ad terram inter folia dejecta, præcipue in pinetis; autumno.

ORD. III. ELVELLACEI.—Trib. I. STICTEI.

CHAR.—Receptaculum obliteratum. Hymenium immersum, marginatum. —*Fries.*

GENUS XCII. STICTIS, *Pers.*

CHAR. GEN.—Receptaculum cupuliforme, immersum, limbo obliterato. Hymenium læve, immersum.

1. *S. radiata; (Pers.)*, orbicularis, limbo niveo, lacerato vel integro, subpulverulento demum obliterato. IV. Tab. 227.

HAB. In ligna, cortice arborum, et etiam caulibus herbarum; fere per annum.

Trib. II. CUPULATI.

CHAR.—Receptaculum cupulatum, primo clausum. Hymenium marginatum.—*Fries.*

GENUS XCIII. ASCOBOLUS, *Pers.*

CHAR. GEN.—Receptaculum carnosum, primo clausum, demum planiusculum, marginatum. Asci prominentes, demum elastice dissilientes.

1. *A. furfuraceus; (Pers.)*, sessilis, subconcavus, fuscus vel virescens, externe furfuraceus.—*Fries.* VI. Tab. 307.

HAB. In fimo vaccino; per annum.

GENUS XCIV. PEZIZA, *Dill.*

CHAR. GEN.—Receptaculum stipitatum aut sessile, plus minus cupuliforme vel complanatum, disco nudo.

* *Aleuria.*

1. *P. reticulata; (Grev.)*, magna, intus fulvo-rufescens, medio plicata, reticulata, extus albida, pruinosa, cupula margine involuta, primo integra demum lacerata, subrepanda, stipite brevi crasso. III. Tab. 156.

HAB. Ad terram; vere.

2. *P. repanda; (Wahl.)*, sessilis, subsolitaria, magna, primo hemisphærico-concava, demum explanata, intus subrugosa, fusca, extus farinosa, albida, margine crenato. I. Tab. 59.

HAB. Ad terram in fagetis; autumno.

3. *P. vesiculosa; (Bull.)*, magna, integra, sessilis, globoso-turbinata, ore connivente, demum campanulata, lacerato-crenata, dilute fuscescens, extus furfuracea, pallida. II. Tab. 107.

HAB. In fimo et fimetosis; vere et autumno.

4. *P. Macropus; (Pers.)*, magna, subgregaria, cupula hemisphærica, hirto-verrucosa, cinerea, disco murino expallente, stipite longissimo, deorsum incrassato. II. Tab. 70.

HAB. Ad terram in sylvis; autumno.

5. *P. ochracea; (Grev.)*, minuta, sessilis, carnosa, crassa, plana, vix marginata, subtus glabra, hymenio quasi granulis nitidis sparso. I. Tab. 5.

HAB. Ad corticem arborum mortuorum; autumno.

** *Lachnea.*

6. *P. coccinea; (Jacq.)*, cupula carnosa, infundibuliformi, stipitata, extus stipiteque villo brevi appresso, albido, tomentosa, disco coccineo. III. Tab. 171.

HAB. Ad ramos putridos dejectos; vere.

7. *P. atro-rufa; (Grev.)*, cupula subglobosa, ore constricto, ad basin barbato-radicata, intus atra, extus glabra, nigra, præcipue ad marginem rufo-pruinosa. VI. Tab. 315.

HAB. Ad ramos dejectos; autumno.

8. *P. plumbea; (Grev.)*, sessilis, minuta, gregaria, carnoso-ceracea, depressa, fusco-olivacea, villosa, disco lævi, plumbeo. I. Tab. 11.

HAB. Ad lignum et ramos mortuos; autumno.

9. *P. sulphurea; (Pers.)*, minuta, sessilis, gregaria, cupula globosa demum explanata, strigoso-hirsuta, sulphurea, disco albido. II. Tab. 83.

HAB. Ad caules herbarum emortuarum; vere.

10. *P. Aurelia; (Pers.)*, sessilis, gregaria, ovato-globosa, aurea, strigosa, ore contracto, subiculo villoso, pallido. III. Tab. 139. *(Peziza Wauchii)*.

HAB. In ligno putrido, inter folia decidua, &c.; autumno.

11. *P. fusca; (Pers.)*, sessilis, gregaria, cupulis fuscis demum applanatis, disco cinereo, margine glabro, subiculo lato tomentoso fusco. IV. Tab. 192.

HAB. Ad corticem *Alni*, *Coryli*, &c.; per annum.

*** *Phialea*.

12. *P. æruginosa; (Pers.)*, æruginosa, turbinata, demum expansa, subflexuosa, stipite brevi. V. Tab. 241.

HAB. In ligno putrido; per annum.

13. *P. Persoonii; (Moug.)*, cupula glaberrima, urceolata, aurantiaca, margine prominente, membranaceo, pallido, stipite cylindrico, roseo. III. Tab. 162.

HAB. In caulibus emortuis *Equiseti*; autumno.

14. *P. erumpens; (Grev.)*, minuta, glaberrima, sessilis, cinerea, sub cortice petiolorum subputridorum inclusa, tempestate humida solum erumpens. II. Tab. 99.

HAB. In petiolis *Aceris Pseudo-Platani*; autumno.

15. *P. punctiformis; (Grev.)*, minutissima, gregaria, flava, globosa, demum explanata, margino crenulato. II. Tab. 63.

HAB. Ad folia dejecta *Quercus* et *Fagi*; autumno.

Trib. III. MITRATI.

CHAR.—Receptaculum pileiforme, nunquam clausum. Hymenium immarginatum.—*Fries*.

GENUS XCV. LEOTIA, *Hill*.

CHAR. GEN.—Receptaculum capitato-pileatum, margine revolutum, hymenio læviusculo.—*Fries*.

1. *L. lubrica; (Pers.)*, tremellosa, pileo tumido, repando, olivaceo, margine rotundato, stipite flavo. I. Tab. 56.

HAB. Ad terram in sylvis humidis; autumno.

GENUS XCVI. HELVELLA, *Linn*.

CHAR. GEN.—Receptaculum pileatum, deflexum, lobatum, hymenio læviusculo.—*Fries*.

1. *H. Mitra; (Linn.)*, pileo livido, inflato, stipite plus minus adnato, stipite sulcato-lacunoso, pallido. I. Tab. 36.

HAB. Ad terram in locis umbrosis graminosis; autumno.

2. *H. leucophæa; (Pers.)*, pileo deflexo, lobato, libero, crispo, pallido, subtus dilute rufescenti, stipite albo, sulcato-lacunoso. III. Tab. 143.

HAB. Ad terram in sylvis; autumno.

GENUS XCVII. MORCHELLA, *Dill*.

CHAR. GEN.—Receptaculum pileatum, hymenio lacunoso.

1. *M. esculenta; (Pers.)*, pileus ovato-rotundatus basi adnatus, lacunis profundis, stipito lævi albo. II. Tab. 68.

Hab. Ad terram arenosam in sylvis; vere.

2. *M. hybrida; (Pers.)*, pileo brevi, conico, olivaceo, basi patulo, lacunis longitudinaliter subparallelis, stipite longo, crasso, albo. II. Tab. 89.

Hab. Ad terram in sylvis; vere.

Ord. IV. PILEATI.—Trib. I. Auricularini.

Char.—Hymenium papillosum vel læve.—*Fries.*

Genus XCVIII. PHLEBIA, *Fries.*

Char. Gen.—**Hymenium cum pileo homogeneum, vage vel interrupte plicatum,** rugis prominentibus cum hymenio undique ascigeris. Asci immersi. Sporidia albida.

1. *P. merismoides; (Fries)*, effusa, carneo-rubra, subtus villosa, alba, margine aurantiaco, piloso, plicis rectis. V. Tab. 280.

Hab. Ad truncos muscosos, et inter muscos; autumno et hyeme.

Genus XCIX. AURICULARIA, *Bull.*

Char. Gen.—Hymenium læviusculum. Asci immersi. Sporidia solitaria, albida.—*Fries.*

1. *A. reflexa; (Bull.)*, effuso-reflexa, coriacea, strigoso-hirsuta, zonata, hymenio glabro, lævi, lutescenti. V. Tab. 256.

Hab. Ad truncos et ramos mortuos; per annum.

2. *A. quercina; (Grev.)*, resupinata, carnea vel dilute aurantiaca, margine demum involuto, subtus libera, nigrescens. III. Tab. 142. *(Thelephora quercina).*

Hab. Ad ramos *Quercus*, *Fagi*, &c.; fere per annum.

3. *A. Corium; (Grev.)*, effusa, coriacea, tenuis, lata, margine juniori sub-byssoideo demum libero, hymenio pallido, minute foveato-reticulato. III. Tab. 147. *(Thelephora Corium).*

Hab. Ad ramos mortuos; autumno.

4. *A. sanguinolenta; (Grev.)*, dimidiata effusaque, ad tactum cruentata, tenuis, sericea, pallida, subtus glabra, griseo-fusca. IV. Tab. 225. *(Thelephora sanguinolenta).*

Hab. Ad ramos mortuos *Pineos;* fere per annum.

5. *A. Padi; (Grev.)*, resupinata, tenuis, griseo-ferruginea, hymenio setulis brevissimis obsito, læviusculo. IV. Tab. 234. *(Thelephora Padi).*

Hab. Ad truncos arborum.

6. *A. Sambuci; (Grev.)*, effusa, tenuis, candida, tuberculosa, farinoso-cretacea, margine glabro. V. Tab. 242. *(Thelephora Sambuci).*

Hab. Ad truncos mortuos *Sambuci;* vere et autumno.

Genus C. THELEPHORA, *Ehrh.*

Char. Gen.—Hymenium subpapillosum, inæquabile. Sporidia quaternata, fusco-purpurea.—*Fries.*

1. *T. laciniata; (Pers.)*, ferruginea-fusca, dimidiata, imbricata, fibroso-squamosa, margine laciniato. V. Tab. 264.

Hab. Ad terram, præcipue in pinetis subalpinis.

Genus CI. MERISMA, *Pers.*

Char. Gen.—Receptaculum subcrustaceum vel stipitatum, ramosum, coriaceum, ramis complanatis, dilatatis, laciniatis. Hymenium omnem superficiem utrinque occupans cum stipite confusum.

1. *M. tuberosum; (Grev.)*, erectum, distinctum, stipitatum, griseo-rufescens, ramis longitudinaliter subæqualibus, laciniatis, stipite bulboso. III. Tab. 178.

Hab. Ad terram; autumno.

2. *M. fœtidum: (Pers.)*, erectum, cæspitosum, fusco-purpurascens, ramis complanatis, dilatatis, palmatis, apice albicantibus. I. Tab. 46.

Hab. Ad terram in sylvis; autumno.

Genus CII. CRYPTOMYCES, *Grev.*

Char. Gen.—Receptaculum effusum, omnino adnatum, erumpens, planum, carnosum. Hymenium omnem superficiem occupans, læve. Asci magni, sporidiis magnis ovalibus.

1. *C. Wauchii; (Grev.)* IV. Tab. 206.

Hab. Ad ramos *Salicum;* æstate et autumno.

Trib. II. Hydnei.

Char.—Hymenium subulatum vel tuberculatum.—*Fries.*

Genus CIII. RADULUM, *Fries.*

Char. Gen.—Hymenium interruptum, hinc inde tuberculosum.—*Fries.*

1. *R. orbiculare; (Fries)*, orbiculatum, resupinatum, albo-lutescens, margine byssino, aculeis interruptis difformibus, apice villosis. V. Tab. 278.

Hab. Ad truncos *Betularum;* fere per annum.

Genus CIV. SISTOTREMA, *Pers.*

Char. Gen.—Subulæ explanatæ, flexæ, lamelluliformes vel gyrosæ, utrinque ascigeræ.

1. *S. confluens; (Pers.)* V. Tab. 248.

Hab. Ad terram et ramos putridos; autumno.

Genus CV. HYDNUM, *Linn.*

Char. Gen.—Subulæ confertæ, liberæ, clausæ.—*Fries.*

1. *H. Auriscalpium; (Linn.)*, pileo horizontali, coriceo, tomentoso, subulisque subspadiceis, stipite erecto, laterali, tomentoso. IV. Tab. 196.

Hab. Ad strobilos *Pinuum;* per annum.

2. *H. repandum; (Linn.)*, pileo carnoso, lævi, subrepando, incarnato-pallido, subulis inæqualibus, pallidis, stipite pallido difformi. I. Tab. 44.

Hab. Ad terram in sylvis; autumno.

3. *H. imbricatum; (Linn.)*, pileo carnoso, tessulato-squamoso, azono, umbrino, subulis albido-cinereis, stipite brevi. II. Tab. 71.

Hab. Ad terram in pinetis; autumno.

Genus CVI. FISTULINA, *Bull.*

Char. Gen.—Hymenium distinctum sed pilei substantia concretum. Subulæ verruciformes, demum elongatæ, approximatæ, tubuloso-apertæ.

1. *F. hepatica; (With.)* V. Tab. 270.

Hab. Ad truncos *Quercuum;* autumno.

Trib. III. POLYPOREI.

CHAR.—Hymenium porosum vel sinuosum.—*Fries.*

GENUS CVII. DÆDALEA, *Pers.*

CHAR. GEN.—Hymenium cum pileo concretum et homogeneum, sinuosum. —Suberosi.—*Fries.*

1. *D. quercina; (Pers.)*, dimidiata, ligneo-pallens, pileo suberoso, ruguloso, glabro, lamellis contortis, implexis, sinuosis.—*Fries.* IV. Tab. 238.

HAB. Ad truncos *Quercuum*; per annum.

GENUS CVIII. POLYPORUS, *Mich.*

CHAR. GEN.—Hymenium cum pileo concretum homogeneum porosum.—*Fries.*

* *Resupinati et effuso-reflexi.*

1. *P. Carmichaelianus; (Grev.)*, omnino resupinatus, tenuissimus, albus, margine membranaceo, laciniato, poris minutis subhexagonis, brevissimis. IV. Tab. 224.

HAB. Ad truncos et ramos mortuos;

2. *P. abietinus; (Fries)*, pileo effuso, demum reflexo, tenui, coriaceo, villoso, albido, obscure zonato, poris demum irregulariter sinuato-dentatis, violaceis. IV. Tab. 226.

HAB. Ad truncos mortuos *Pinuum;* vere et autumno.

3. *P. ferruginosus; (Fries)*, effusus, demum reflexus vel dimidiatus, ferrugineus, pileo tenui, subtomentoso, poris inæqualibus subangulatis. III. Tab. 155.

HAB. Ad truncos putridos dejectos; autumno.

** *Dimidiati.*

4. *P. hispidus; (Fries)*, pileo magno, dimidiato, crasso, strigoso-villoso, ferrugineo, intus carnoso-fibroso, croceo-ferrugineo, .poris margine pallidis, sæpe fimbriatis. I. Tab. 14.

HAB. Ad truncos arborum ; æstate et autumno.

5. *P. sulphureus; (Fries)*, difformis, polymorphus, sessilis, pileo irregulariter imbricato, glabriusculo, flavo- vel aurantio-rubro, poris minutis, sulphureis. III. Tab. 113.

HAB. Ad truncos arborum;

*** *Stipitati.*

6. *P. squamosus; (Fries)*, amplus, pileo carnoso, subochraceo, plus minus squamoso, poris pallidis, magnis, stipite sublaterali, obeso. IV. Tab. 207.

HAB. Ad truncos arborum.

7. *P. varius; (Fries)*, pileo coriaceo, glabro, lævi, siccitate rigido, poris minutis, subrotundis, pallidis, stipite brevi, centrali vel laterali, lævi, pallido, deorsum frequentissime abrupte nigro. IV. Tab. 202.

HAB. Ad truncos et ramos dejectos; per annum.

8. *P. betulinus; (Fries)*, pileo carnoso, glabro, subreniformi, pallide fusco-rufescente, vertice obliquo brevissime stipitato, poris inæqualibus albis. IV. Tab. 245.

HAB. Ad truncos *Betulinos;* æstate et autumno.

9. *P. lucidus; (Fries)*, pileo suberoso, stipiteque glabro, nitenti castaneo, poris minutis, rotundis, pallidis. V. Tab. 245.

HAB. Ad truncos vetustos; æstate.

GENUS CIX. BOLETUS, *Dill.*

CHAR. GEN.—Hymenium a pileo discretum. Tubuli in stratum porosum connexi.

1. *B. luteus; (Linn.)*, pileo glutine fusco secedente oblinito, tubulis adnatis, rotundis, luteis, stipite firmo, annulato, apice punctato.—*Fries.* IV. Tab. 183.

Hab. Ad terram in sylvis et pascuis subalpinis; autumno.

2. *B. luridus; (Schæff.)*, pileo pulvinato, subtomentoso, olivaceo, dein subviscoso, fulvo-fuligineo, tubulis subliberis, rotundis, luteis, ore rubro, stipite crasso, reticulato, rubro.—*Fries.* III. Tab. 121.

Hab. Ad terram in sylvis; autumno.

Trib. IV. AGARICINI.

Char.—Hymenium lamellatum plicatumve.—*Fries.*

Genus CX. SCHIZOPHYLLUM, *Fries.*

Char. Gen.—Lamellæ longitudinaliter bifidæ revolutæ.—Pileus floccoso-coriaceus.—*Fries.*

1. *S. commune; (Fries).* II. Tab. 61.

Hab. Ad truncos; per annum.

Genus CXI. CANTHARELLUS, *Fries.*

Char. Gen.—Lamellæ plicæformes, dichotomæ, subinde obsoletæ. Pileus carnosus vel membranaceus.—*Fries.*

1. *C. cibarius; (Fries)*, vitellinus, pileo carnoso, subrepando, glabro, plicis tumidis, stipite solido, deorsum attenuato. V. Tab. 258.

Hab. In sylvis et pinetis; æstate et autumno.

Genus CXII. AGARICUS, *Linn.*

Char Gen.—Pileus stipitatus aut latere affixus, subtus lamellis rectis, simplicibus, sporidiferis. Volva nulla.

Series I. Leucosporus.

1. *A. cristatus; (Bolt.)*, graveolens, pileo demum explanato, umbonato, pilei epidermide in squamas secedente, lamellis liberis, albidis, stipite lævi, fistuloso, annulo fugaci. III. Tab. 176.

Hab. Ad terram in locis graminosis arenosis; autumno.

2. *A. granulosus; (Pers.)*, parvus, solitarius vel subcæspitosus; pileo plerumque flavo-aurantiaco furfuraceo-squamoso, lamellis albidis, adfixis, stipite subsolido, infra annulum patulum squamoso. II. Tab. 104.

Hab. Ad terram et ad basin truncorum inter muscos in sylvis; autumno.

3. *A. melleus; (Fl. Dan.)*, cæspitosus, pileo sordide luteo, squamis pilosis nigricantibus echinato, lamellis adnato-decurrentibus, distantibus, stipite fibrilloso, solido, annulo tumido patulo. VI. Tab. 332.

Hab. Ad terram circa truncos in sylvis; autumno.

4. *A. canaliculatus; (Schum.)*, pileo convexo, lævissimo, cinereo-fusco, lamellis angustis, pallidis, vix decurrentibus, stipite magno, ventricoso, cavo. I. Tab. 9. *(A. turgidus.)*

Hab. Ad terram in sylvis inter folia decidua; autumno.

5. *A. gilvus; (Pers.)*, magnus, pileo convexo, umbonato, demum infundibuliformi, lævi, firmo, pallido, lamellis angustis, decurrentibus, demum gilvis, stipite recto, solido, subradicato. I. Tab. 41.

Hab. Ad terram in sylvis; autumno

6. *A. odorus; (Bull.)*, fragrans, planiusculus, plus minus virescens, pileo lævi, lamellis confertis, pallidis, vix subdecurrentibus, stipite solido, subflexuoso. I. Tab. 28.

HAB. Ad terram in sylvis humidis, inter muscos et folia decidua; autumno.

7. *A. pratensis; (Pers.)*, firmus, pileo subcompacto, glabro, convexo-expanso, sæpissime umbonato, lamellis crassis, subdistantibus, decurrentibus, stipite farcto, brevi, deorsum attenuato. II. Tab. 91.

HAB. In pascuis; autumno.

8. *A. virgineus; (Wulf.)*, candidus, pileo tenui, humido, convexo, dein umbilicato, lamellis decurrentibus, venoso-connexis, distantibus, stipite fistuloso, tenui, deorsum attenuato.—*Fries.* III. Tab. 166.

HAB. In pascuis; autumno.

9. *A. psittacinus; (Schæff.)*, e viridi lutescens, viscidus, pileo campanulato, expanso, humido striato, lamellis adnatis, subdistantibus, stipite æquali, lævi.—*Fries.* II. Tab. 74.

HAB. In pascuis; autumno.

10. *A. laccatus; (Scop.)*, gregarius, pileo subcarnoso, tenaci, squamuloso, expallente, dein disco depresso, lamellis crassis, subdecurrentibus, distinctis, distantibus, stipite tenaci, fistuloso, elongato. V. Tab. 249.

HAB. Ad terram in sylvis; æstate et autumno.

11. *A. radicatus; (Relh.)*, pileo rugoso, glutinoso, lamellis adfixis, albidis, stipite procero, rigido, basi dilatato, radice longa, fusiformi. IV. Tab. 217.

HAB. Ad terram in sylvis, &c. circa truncos putridos; æstate et autumno.

12. *A. oreades; (Bolt.)*, pileo carnoso, tenaci, subumbonato, e rufo pallescente, lamellis distantibus, stipiteque solido, tereti, deorsum attenuato, villoso-corticato, pallidis. VI. Tab. 323.

HAB. In pascuis; æstate et autumno.

13. *A. tuberosus; (Bull.)*, parvus, albus, pileo plano vel subumbonato, lamellis adnatis, confertis, stipite subsolido, inferne subtomentoso, tubere innato. I. Tab. 23.

HAB. Ad *Agaricos* putridos, et inter folia decidua; autumno.

14. *A. floccosus; (Curt.)*, cæspitosus, pileo carnoso, croceo-ferrugineo, piloso-squamoso, squamis revolutis, stipite squarroso, deorsum attenuato. I. Tab. 2.

HAB. Ad truncos mortuos; autumno.

Series 2. HYPORHODIUS.

15. *A. phlebophorus; (Ditm.)*, pileo vix subcarnoso, glabro, convexo-explanato, olivaceo-umbrino, venoso-rugoso, stipite subfistuloso, glabro, albido, lamellis liberis, albidis, dein carneis. III. Tab. 173.

HAB. Ad truncos putridos; æstate et autumno.

Series 3. DERMINUS.

16. *A. rimosus; (Bull.)*, pileo subcarnoso, campanulato, demum subplano, fusco-lutescente, epidermide longitudinaliter rimosa, lamellis subliberis, adnexis, stipite solido, vix stricto, basi subtuberoso, pallido. III. Tab. 128.

HAB. In sylvis graminosis ad terram; autumno.

17. *A. variabilis; (Pers.)*, pileo membranaceo, e resupinato reflexo, sericeo-tomentoso, albo, lamellis albido-rufescentibus. IV. Tab. 235.

HAB. Ad truncos ramosque putridos; autumno.

Series 4. PRATELLA.

18. *A. campestris; (Linn.)*, pileo convexo-plano, carnoso, sicco, subsquamoso sericeove, lamellis liberis, ventricosis, demum fuscis, stipite farcto, subæquali, albo, velo annuliforme subpersistente. III. Tab. 161.

HAB. Ad terram in pascuis et sylvis; æstate et autumno.

19. *A. semiglobatus ; (Batsch)*, pileo hemisphærico, lævi, viscoso, flavo, lamellis horizontaliter adnatis, nigro-nebulosis, stipite fistuloso, glabro, annulato. VI. Tab. 344.

HAB. In fimo, in pratis et sylvis ; fere per annum.

20. *A. fascicularis ; (Huds.)*, pileo subcarnoso, umbonato, ochraceo, lamellis adnatis, virescentibus, stipite tenui, firmo, cavo, cortina nigrescente, evanescente. VI. Tab. 329.

HAB. Ad basin truncorum vetustorum ; vere et autumno.

21. *A. cepæstipes ; (Sow.)*, pileo campanulato, demum plano, sparsim squamoso, margine plicato, tenuissimo, lamellis liberis, stipite cavo, ventricoso, lævi, annulato. VI. Tab. 333.

HAB. In vaporariis ; æstate et autumno.

Series 5. COPRINUS.

22. *A. comatus ; (Pers.)*, pileo subcarnoso, albo, squamoso, primo cylindraceo, dein campanulato, deliquescenti, lamellis albis demum purpurascentibus, stipite subbulboso, annulo mobili. II. Tab. 119.

HAB. In hortis locisque neglectis ; autumno.

23. *A. micaceus ; (Bull.)*, cæspitosus, pileo membranaceo, sulcato, furfuraceo, (plerumque aurantiaco-fuscescenti), lamellis e pallido nigrescentibus, stipite equali fragili. II. Tab. 76.

HAB. Ad basin truncorum, &c. ; vere et autumno.

GENUS CXIII. AMANITA, *Pers.*

CHAR. GEN.—Pileus stipitatus, volvatus, subtus lamellis simplicibus, rectis, sporidiferis instructus. Stipes annulatus aut nudus.

1. *A. muscaria ; (Pers.)*, pileus margine striato, lamellis candidis, stipite subfarcto, bulboso, volva squamosa. I. Tab. 54.

HAB. In sylvis ; autumno.

2. *A. nivalis ; (Grev.)*, alba, pileo plano vel subumbonato, centro sæpe diluto-ochraceo, margine striato-pectinato, lamellis subdistantibus, stipite nudo, bulboso, volva laxa. I. Tab. 18.

HAB. Ad terram in alpibus ; æstate.

CLASS II. BYSSACEÆ.

[*Character Byssacearum, ex "Systemate Orbis Vegetabilis" Friesii :* Algæ aëreæ ; perennantes, continuo vigentes, contextu filamentoso, fibris farctis (liberis aut pluribus conglutinatis, cortice communi), immutatis persistentibus ; fructificatione homogenea, extus nuda nascente.]

Trib. I. RHIZOMORPHEÆ.

CHAR.—Sporidia intra pseudo-perithecium e thallo inflato formatum collocata.—*Fries.*

GENUS CXIV. RHIZOMORPHA, *Roth.*

CHAR. GEN.—Thallus elongatus, ramosissimus, lignoso-coriaceus, corticatus, intus floccosus. Pseudo-perithecia apice poro dehiscentia.

1. *R. divergens*; (*Grev.*), cylindrica, flexuosa, rufescens, ramis semper liberis, patentibus, pseudo-peritheciis clavatis, numerosis, apicem versus albidis. III. Tab. 154.

HAB. Sub cortice *Pinuum*;

Trib. II. CŒNOGONEÆ.

CHAR.—Sporidia in excipulo aperto hymenium referente, persistente, subascigero.—Thallus e fibris plus minus contextis, subcontinuis.—*Fries.*

GENUS CXV. OZONIUM, *Link.*

CHAR. GEN.—Fibræ elongatæ, articulatæ, coloratæ, contiguæ, plus minus fasciculato-confluentæ.

1. *O. auricomum*; (*Link*), aurantiaco-fulvum, densum, polymorphum, fasciculis fibrarum rigidis, strictis. V. Tab. 260.

HAB. Ad ligno putrido locis humidis; per annum.

GENUS CXVI. HIMANTIA, *Pers.*

CHAR. GEN.—Flocci repentes, divergenti-ramosi, laxe contexti. Sporidia libera, parca.

1. *H. candida*; (*Pers.*), plerumque epiphylla, candida, fasciculis floccarum apice dilatatis plumosis. III. Tab. 228.

HAB. Ad folia mortua, humida; per annum.

Trib. III. RACODIACEÆ.

CHAR.—Sporidia externa, excipulo a thallo discreto excepta (sæpius peridium referente).—*Fries.*

GENUS CXVII. RACODIUM, *Pers.*

CHAR. GEN.—Sporidia simplicia, nuda, delabentia e pseudo-peridiis e floccis moniliformibus conglobatis formatis inspersis; thallo e fibris continuis laxe contexto.

1. *R. cellare*; (*Pers.*), late effusum, mollissimum, primo pallidum, demum olivaceo-nigrum. V. Tab. 259.

HAB. In cryptis;

GENUS CXVIII. HELMISPORIUM, *Link.*

CHAR. GEN.—Fibræ minutæ, erectæ, rigidæ, opacæ, aggregatæ. Sporidia oblongo-clavata, septata, decidua.

1. *H. macrocarpon*; (*Grev.*), fibræ simplices, subulatæ, subacutæ, nigerrimæ, sporidiis magnis, 5–8 septatis. III. Tab. 148. f. 1.

HAB. Ad ramos mortuos; autumno.

2. *H. velutinum*; (*Link*), fibræ aggregatæ, effusæ, subramosæ, obtusæ, nigro-olivaceæ, sporidiis pyriformibus 3–4-septatis. III. Tab. 148. f. 2.

HAB. Ad ramos mortuos arborum.

Trib. IV. BYSSEÆ.

CHAR.—Sporidia externa nulla, quare ipsius thalli divisione multiplicantur.—Thallus e floccis discretis, articulatis, moniliformibus.—*Fries.*

GENUS CXIX. MONILIA, *Pers.*

CHAR. GEN.—Flocci opaci, articulati, erecti, liberi, articulis contiguis.

1. *N. antennata; (Pers.)*, floccis simplicibus, densissime aggregatis, moniliformibus, articulis ovalibus. V. Tab. 255.

HAB. In ligno et truncis mortuis; autumno.

Trib. V. BYSSACEÆ.

CHAR.—Byssaceæ spuriæ vel asporæ, e fibrillis, pilis, cellulis systematis vegetati plantarum evolutarum degenerantibus ortæ.—*Fries.*

GENUS CXX. ERINEUM, *Pers.*

CHAR. GEN.—Flocci aggregati, continui, inflati, e cellulis plantarum intumescentibus et deformatis orti.

* *Taphria.*

1. *E. aureum; (Pers.)*, hypophyllum, aureum, sericeum, effusum, floccis simplicibus clavatis. I. Tab. 33.

HAB. In foliis *Populi nigræ;* æstate et autumno.

2. *E. griseum; (Pers.)*, hypophyllum, late effusum, sericeum, purpurascenti-griseum, floccis dilatato-clavatis. III. Tab. 141. f. 1.

HAB. In foliis *Quercuum;* æstate.

** *Grumaria.*

3. *E. clandestinum; (Grev.)*, hypophyllum, confluens, plerumque margine foliis involuto tectum, albo-roseum, demum dilute ferrugineum, floccis breviter clavatis. III. Tab. 141. f. 2.

HAB. In foliis *Cratægi Oxycanthæ;* æstate.

4. *E. fagineum; (Pers.)*, hypophyllum, maculæforme, subimmersum, granulosum, densum, primo albidum, demum badium, floccis clavato-turbinatis. V. Tab. 250. f. 1.

HAB. In foliis *Fagi sylvaticæ;* æstate.

5. *E. populinum; (Pers.)*, amphigenum, maculæforme, profunde immersum, primo pallidum dein rufescens, demum sordide spadiceum, floccis crassis, apice erosis et lobatis. V. Tab. 250. f. 2.

HAB. In foliis *Populi tremulæ;* æstate et autumno.

6. *E. Padi; (Duv.)*, hypophyllum, effusum, superficiale, densum, grumosum, primo albidum, demum aurantiacum umbrinumque, floccis subramosis vel tuberculatis, subtruncatis. III. Tab. 157. f. 1.

HAB. In foliis *Pruni Padi;* æstate et autumno.

7. *E. alneum; (Pers.)*, hypophyllum, maculæforme vel effusum, grumosum, subimmersum, primo albido-flavescens, demum fulvo-ferrugineum, floccis apice ramosis tuberculosisque. III. Tab. 157. f. 2.

HAB. In foliis *Alni glutinosæ;* æstate.

8. *E. roseum; (Schultz)*, epiphyllum, effusum, superficiale, grumosum, ab initio roseum, demum fusco-purpureum, floccis dilatato-clavatis turbinatisve. I. Tab. 21. *(E. Betulæ).*

HAB. In foliis *Betulæ albæ;* æstate.

*** *Phyllerium.*

9. *E. pyrinum; (Pers.)*, amphigenum, effusum, superficiale, laxum, primo pallido-rubellum, demum spadiceo-ferrugineum, floccis tortuosis obtusis. I. Tab. 22.

HAB. In foliis *Pyri mali* et *communis;* æstate.

10. *E. tortuosum; (Grev.)*, amphigenum, maculæforme, subimmersum, albo-ferrugineum, floccis tortuosis, cylindricis, obtusis. II. Tab. 94.

HAB. In foliis *Betulæ albæ;* æstate.

11. *E. Sorbi; (Funck)*, amphigenum, maculare et subeffusum, superficiale, laxum, primo rubellum, demum fulvo-ferrugineum, floccis cylindricis, incurvis, apice obtusis. V. Tab. 263. f. 1.

HAB. In foliis *Sorbi Aucupariæ;* æstate et autumno.

12. *E. Juglandis; (Gærtn.)*, hypophyllum, subquadratum, profunde immersum, album, floccis tenuibus suberectis, cylindricis, attenuatis, acutis. V. Tab. 263. f. 2.

HAB. In foliis *Juglandis regiæ;* æstate.

CLASS III. ALGÆ.

ORD. I. DIATOMEÆ.

GENUS CXXI. ACHNANTHES, *Bory.*

CHAR. GEN.—Corpuscula plana, articulata, stipitata, vexilliformia, articulis secedentibus.

1. *A. brevipes; (Ag.)*, articulis bipunctatis, stipite brevissimo. V. Tab. 295.

HAB. In mare, ad Confervas.

2. *A. unipunctata; (Carm.)*, articulis perpaucis, quadratis, margine transversim striatis, puncto colorat onotatis. V. Tab. 287.

HAB. In mare ad Algas filiformes.

GENUS CXXII. EXILARIA, *Grev.*

CHAR. GEN.—Corpuscula hyalina, rigida, sublinearia, modo flabelliformi disposita, basi vel receptaculo simplici aut ramoso affixa, demum secedentia.

1. *E. circularis; (Grev.)*, corpusculis minutissimis, cuneatis, in circulo plano rotulæformi dispositis. I. Tab. 35. *(Echinella circularis)*.

HAB. Ad plantas, &c.; in rivulis et paludis.

2. *E. fasciculata; (Grev.)*, corpusculis linearibus, apice acutiusculis, luteo-viridis, receptaculo convexo, hyalino. I. Tab. 16. figs. 1–3, vix bonæ. *(Echinella fasciculata)*; et V. Tab. 298. f. 3. *a*.

HAB. Ad Algas confervoideas in mare.

3. *E. truncata; (Grev.)*, corpusculis linearibus, luteis, apice truncatis. I. Tab. 16. f. 4. *(Echinella fasciculata*, v. *β*, *truncata)*.

HAB. Ad plantas aquaticas in aquis quietis.

4. *E. fulgens; (Grev.)*, corpusculis nitentibus, aurantiacis, sublinearibus, modo plano radiante disposita, receptaculo lato pellucido simplici insidentibus. V. Tab. 291.

HAB. In Algas marinas.

5. *E. flabellata; (Grev.)*, ramosa, elongata, ramis alternis, hyalinis, patentibus, corpusculis flabellatis. V. Tab. 289.

HAB. In *Zostera marina*, et aliis plantis marinis; vere.

GENUS CXXIII. DIATOMA, *De Cand.*

CHAR. GEN.—Fila articulata, hyalina, rigida, simplicia, tandem articulis solutis angulo alternatim cohærentia.

1. *D. tenue; (Ag.)*, strato fuscescente, filis lævibus (non striatis), articulis diametro triplo vel quadruplo longioribus. VI. Tab. 354.

HAB. In fossis et aquis quietis.

GENUS CXXIV. DESMIDIUM, *Ag.*

CHAR. GEN.—Fila simplicia, articulata, angulata, angulis hyalinis, crenatis, articulis demum secedentibus.

1. *D. Swartzii; (Ag.)*, filis triangularibus, articulis bicrenatis. V. Tab. 292.

HAB. In aquis quietis; vere.

2. *D. cylindricum; (Grev.)*, filis cylindricis, biangulatis, angulis bicrenatis. V. Tab. 293.

HAB. In aquis quietis; vere.

GENUS CXXV. SCHIZONEMA, *Ag.*

CHAR. GEN.—Fila libera, continua, e filis angustioribus coadunatis composita, granula elliptica includentibus.

1. *S. Smithii; (Ag.)*, filis cæspitosis, valde gelatinosis, irregulariter ramosis, acutis, granulis geminatis lineis parallelis confertis. V. Tab. 298.

HAB. In plantas marinas.

GENUS CXXVI. MONEMA, *Grev.*

CHAR. GEN.—Fila libera, continua, tubulata, capillaria, granula oblonga vel subelliptica, sparsa, includentia.

1. *M. apiculatum; (Grev.)*, filis erectis, ramosis, ramis subfasciculatis apice incrassatis apiculatis, granulis oblongis. I. Tab. 30. *(Gloionema apiculatum).*

HAB. Ad saxos marinos.

2. *M. obtusum; (Grev.)*, filis dichotomis, ramis subdivaricatis, apice obtusis, granulis numerosissimis, lineari-oblongis, geminatis. VI. Tab. 302.

HAB. Ad Algas marinas; æstate.

3. *M. quadripunctatum; (Grev.)*, filis ramosis, cæspitosis, granulis oblongis, primo matrice hyalina, 4-aggregatis, demum sparsis distinctis. V. Tab. 286.

HAB. In lapidibus marinis.

4. *M. Dillwynii; (Grev.)*, filis olivaceis, dichotome ramosis, apice attenuatis, acutis, granulis lineari-oblongis, linea longitudinali notatis, numerosis. V. Tab. 297.

HAB. In Algis et lapidibus marinis.

5. *M. comoides; (Grev.)*, filis laxe cæspitosis, flaccidis, ferrugineo-fuscis, irregulariter ramosis, ramis attenuatis, acutiusculis, granulis oblongis, geminatis. VI. Tab. 358.

HAB. Ad rupes maritimas.

GENUS CXXVII. BERKELEYA, *Grev.*

CHAR. GEN.—Fila simplicia, gelatinosa, granulis oblongis includentia, basi massa subrotunda valde gelatinosa immersa, apice libera.

1. *B. fragilis; (Grev.)* V. Tab. 294.

HAB. In *Zostera marina*, *Furcellaria fastigiata*, &c.; vere.

GENUS CXXVIII. GOMPHONEMA, *Ag.*

CHAR. GEN.—Fila flexilia, ramosa, apice clavas geminas ferentia.—*Ag.*

1. *G. paradoxum; (Ag.)*, flavescens, filis aggregatis, rigidiusculis. I. Tab. 25. *(Echinella paradoxa).*

HAB. In plantis marinis.

2. *G. minutissimum; (Grev.)*, ochraceum, filis aggregatis, intricatis, capillaribus. V. Tab. 244. f. 1.

Hab. In fossis et aquis quietis.

3. *G. geminatum; (Ag.)*, filis in cæspite globoso, fuscescente, dense intricatis. V. Tab. 244. f. 2.

Hab. In rivulis subalpinis.

Ord. II. NOSTOCHINÆ.

Genus CXXIX. CHLOROCOCCUM, *Fries.*

Char. Gen.—Granula omnino libera, minima, absque gelatina.

1. *C. Murorum; (Grev.)*, granulis aggregatis, viridis, simplicibus, minutissimis, ovali-oblongis. VI. Tab. 325.

Hab. Ad muros.

2. *C. vulgare; (Grev.)*, viridissimum, late effusum, granulis cumulato-aggregatis, rotundatis, quaternatis. V. Tab. 262.

Hab. In arborum truncis.

Genus CXXX. PROTOCOCCUS, *Ag.*

Char. Gen.—Globuli aggregati, nudi, granulis farcti, in gelatina hyalina imposisiti.

1. *P. nivalis; (Ag.)* IV. Tab. 231.

Hab. In rupibus calcariis, muscis, exuviæ plantarum, et etiam in terra nuda et nive.

Genus CXXXI. PALMELLA, *Lyngb.*

Char. Gen.—Gelatina hyalina, expansa vel globosa, granulis discretis globosis vel ellipticis farcta.—*Ag.*

1. *P. cruenta; (Ag.)*, effusa, tenuissima, cruenta. IV. Tab. 205.

Hab. Ad basin murorum, locis humidis et umbrosis.

2. *P. protuberans; (Grev.)*, crassa, irregulariter lobata, mollissima, viridis, granulis ellipticis. V. Tab. 243. f. 1.

Hab. Ad rupes humidas inter muscos.

3. *P. botryoides; (Lyngb.)*, minuta, frondibus dense aggregatis, globosis, sublobatis, viridis, granulis ellipticis. V. Tab. 243. f. 2.

Hab. In terram.

4. *P. hyalina; (Lyngb.)*, fronde globosa, hyalino-viridescente, granulis globosis, viridibus. V. Tab. 247.

Hab. In rivulis.

Genus CXXXII. NOSTOC, *Lyngb. Ag.*

Char. Gen.—Frons gelatinosa, expansa et plicata, vel globosa, filis moniliformibus curvato-crispis farcta.—*Ag.*

1. *N. cœruleum; (Lyngb.)*, fronde parva, subglobosa, solida, gelatinosa, lævi, cœrulea, pellucida. III. Tab. 131.

Hab. In turfosis, et muscis humidis.

Genus CXXXIII. CHÆTOPHORA, *Ag.*

Char. Gen.—Frons gelatinosa, globosa vel lobata, filis e communi basi prodeuntibus et radiantibus articulatis ramosis farcta.—*Ag.*

1. *C. pisiformis*; (*Ag.*), fronde parva, globosa, viridi, filorum ramis erectis, dichotomis. III. Tab. 150. (*Chætophora elegans*).

Hab. In plantis aquaticis, fossis, et aquis quietis.

Genus CXXXIV. CORYNEPHORA, *Ag.*

Char. Gen.—Frons gelatinosa, subglobosa, bullata, filis articulatis hic illic claviferis farcta.—*Ag.*

1. *C. marina*; (*Ag.*) I. Tab. 53. (*Chætophora marina*), f. 3. mala, fila crassiora sunt et magis divaricata.

Hab. In mare.

Genus CXXXV. MYRIONEMA, *Grev.*

Char. Gen.—Massa gelatinosa effusa, e filis brevibus, clavatis, erectis, nudis, basi ad laminam tenuem affixis, composita. Fructus; capsulæ ad basin inter fila, brevi-pedicellatæ, erectæ.

1. *M. strangulans*; (*Grev.*) V. Tab. 300. (an hujus loci ?)

Hab. In frondibus *Soleniarum*, in mare.

Ord. III. CONFERVOIDEÆ.—Trib. I. Oscillatorinæ.

Char.—Fila mucosa, subsimplicia, annulis densis parallelis farcta.—*Ag.*

Genus CXXXVI. OSCILLATORIA, *Vauch.*

Char. Gen.—Fila muco communi matricali involuta, rigida, elastica, oscillantia, striis parallelis transversis secta.—*Ag.*

1. *O. limbata*; (*Grev.*), filis crassis, flexuosis, æruginosis, limbo albo pellucido, in stratum densum, sordide æruginoso-viridum, laxe intertextis. V. Tab. 246. (*Oscillatoria rupestris*).

Hab. Ad rupes præruptas irriguas.

2. *O. alata*; (*Carm.*), stratum rufo-fuscum, filis brunneis, minutis, late alatis, alis albidis. IV. Tab. 222.

Hab. In rupibus irriguis.

Obs.—Fila, secundum cl. Berkeley prolifera. An proprium genus ?

Genus CXXXVII. CALOTHRIX, *Ag.*

Char. Gen.—Fila muco matricali destituta, affixa, rigidiuscula, tubo continuo, intus annulato.

1. *C. luteola*; (*Grev.*), filis hyalinis, luteolis, tenuissimis, elongatis, flexibilis, sparsis. V. Tab. 299.

Hab. In Algis filiformibus; autumno.

Genus CXXXVIII. LYNGBYA, *Ag.*

Char. Gen.—Fila muco matricali destituta, libere natantia, flexilia, tubo continuo intus annulato.

1. *L. prolifica*; (*Grev.*), filis tenuissimis, intricatis, purpureis, latissime effusis, natantibus. VI. Tab. 303.

Hab. In lacubus.

Trib. II. CONFERVEÆ GENUINÆ.

CHAR.—Viridescentes, entospermæ, tubo definite articulato. Unico genere capsulifero.—*Ag.*

GENUS CXXXIX. CONFERVA, *L.*

CHAR. GEN.—Fila articulata, libera, distincta, uniformia, septata, entosperma.

1. *C. ericetorum; (Roth)*, filis simplicibus, intertextis, fusco-purpureis, articulis diametro subæqualibus. V. Tab. 261. f. 1.

HAB. In turfosis subexsiccatis.

2. *C. alpina; (Bory)*, filis simplicibus, tenuissimis, purpureis, articulis diametro quadruplo longioribus. V. Tab. 261. f. 2.

HAB. In rivulis subalpinis.

Trib. III. CERAMIEÆ.

CHAR.—Ectospermæ, purpureæ, geniculis hyalinis. Marinæ.—*Ag.*

GENUS CXL. CERAMIUM, *Roth.*

CHAR. GEN.—Fila articulata, rosea vel purpurea, tubo simplici, capsulæ globosæ, sporidia numerosa conglomerata includentes.—*Ag.*

1. *C. patens; (Grev.)*, filis laxe ramosis, ramis breviter pinnatis, pinnis alternis, horizontalibus, in ramulis patentissimis dichotome divisis. VI. Tab. 318.

HAB. In mare.

2. *C. Turneri; (Roth)*, filis cæspitosis, subpinnatis, pinnis et pinnulis oppositis, articulis diametro multoties longioribus, capsulis pedicellatis, secundis. VI. Tab. 355.

HAB. In Algis marinis.

GENUS CXLI. POLYSIPHONIA, *Grev.*

CHAR. GEN.—Frons filiformis, ramosa, articulata, articulis tubulis plurimis coloratis internis notatis. Fructificatio duplex; tubercula externa, et sporidia apicibus ramulorum innata.

1. *P. Agardhiana; (Grev.)*, atro-rubescens, filis elongatis, ramosis, rigidiusculis, ramulis subfasciculatis, basi apiceque attenuatis, articulis inferioribus diametro duplo vel triplo longioribus, superioribus subæqualibus, capsulis hemisphæricis omnino sessilis. IV. Tab. 210.

HAB. In mare.

2. *P. spinulosa; (Grev.)*, purpureo-rubescens, ramis divaricatis, rigidis, ramulis brevibus, strictis, subulatis, articulis diametro subæqualibus, 3-tubulosis, capsulis globosis, sessilibus, minutissimis. II. Tab. 90.

HAB. In mare.

Trib. IV. ECTOCARPEÆ.

CHAR.—Olivaceæ, ectospermæ.—*Ag.*

GENUS CXLII. ECTOCARPUS, *Lyngb.*

CHAR. GEN.—Fila articulata, flexilia, olivacea. Fructus duplex; capsulæ et siliquæ.

1. *E. tomentosus; (Lyngb.)*, fronde funiformi, subspongiosa, ramosa, filis densissime implexis, siliquis obtusis, pedunculatis, articulis diametro triplo longioribus. VI. Tab. 316.

HAB. In Algis marinis.

GENUS CXLIII. SPHACELLARIA, *Lyngb.*

CHAR. GEN.—Frons filiformis, rigida, articulata, olivacea, ramis distichis vel dichotomis. Sporidia vel in capsulis externis, vel apicibus ramorum sphacellatis inclusa.

1. *S. velutina; (Grev.)*, olivacea, effusa, velutina, filis brevissimis, subsimplicibus, erectis, basi capsuliferis, articulis diametro subæqualibus. VI. Tab.350.

HAB. In *Fuco loreo;* hyeme.

2. *S. racemosa; (Grev.)*, uncialis, cæspitosa, filis dichotomis, erectis, articulis diametro æqualibus, capsulis ovalibus, racemosis, pedunculatis, pedunculis adscendentibus. II. Tab. 96.

HAB. In mare.

3. *S. cirrhosa; (Ag.)*, filis ramosissimis tenuibus striatis, ramis alternis subpinnatis, articulis diametro æqualibus.—*Ag.*

Var. *patentissima; (Grev.)*, ramulis undique insertis, suboppositis, patentissimis. VI. Tab. 317.

HAB. In mare.

4. *S. hypnoides; (Grev.)*, caule subramoso, basi filis confervoideis vestito, caulibus vel ramis decomposito-pinnatis, pinnis pinnulisque alternis, confertis, omnibus obtusis, articulis pinnarum diametro æqualibus, estriatis. VI. Tab. 348.

HAB. In mare.

ORD. IV. ULVACEÆ.

GENUS CXLIV. ULVA, *L.*

CHAR. GEN.—Frons plana vel primo tubulosa, membrana æquali (nec striato-areolata. Granulæ quaternatæ.

1. *U. lactuca; (Linn.)*, fronde obovata, tubulata, inflata, subgelatinosa, demum ad basin fissa, laciniis planis, inæqualibus, semipellucidis. VI. Tab. 313.

HAB. In mare, ad rupes et Algas.

2. *U. furfuracea; (Fl. Dan.)*, frondibus minutis, obovato-rotundatis, erectiusculis, cæspitoso-effusis. V. Tab. 265.

HAB. In ligno et muris vetustis, locis umbrosis.

3. *U. calophylla; (Spreng.)*, frondibus minutis, viridibus, sublinearibus, tortis. IV. Tab. 220. *(Bangia calophylla).*

HAB. In saxis.

ORD. V. FLORIDEÆ.

GENUS CXLV. CHONDRIA, *Ag.*

CHAR. GEN.—Frons cartilaginea, (filiformis, ramentis subclavatis sæpe obsita). Fructus duplex: capsulæ sporidiis pyriformibus pedicellatis, et globuli sporidiorum ternorum immersi.—*Ag.*

1. *C. parvula; (Ag.)*, fronde filiformi, articulata, ramis sparsis, intricatis, articulis diametro subæqualibus, capsulis ovatis. VI. Tab. 346.

HAB. In mare; æstate.

GENUS CXLVI. SPHÆROCOCCUS, *Stackh.*

CHAR. GEN.—Frons subcoriacea vel expanso-plana, et tunc aut dichotoma, aut pinnata vel filiformis. Fructus: capsulæ sphæricæ intus foventes nucleum globosum sporidiorum rotundorum.—*Ag.*

1. *S. polycarpus*; (*Grev.*), fronde cartilagineo-membranacea, plana, subdichotome divisa, segmentis sublinearibus, ad apicem laciniatis, acutiusculis, capsulis magnis immersis, in superficie frondis prominentibus. VI. Tab. 352.

HAB. In mare.

2. *S. jubatus*; (*Grev.*), fronde flaccida, membranaceo-coriacea, plana, lineari-attenuata, vage ramosa vel pinnatifida, ciliata, ciliis lineari-subulatis, capsuliferis. VI. Tab. 359.

HAB. In mare.

3. *S. cristatus*; (*Ag.*), fronde plana, membranacea, avenia, subdichotoma, segmentis linearibus, supremis dilatatis, incisis, capsulis marginalibus, immersis. II. Tab. 85.

HAB. In Algis marinis.

4. *S. lichenoides*; (*Ag.*), fronde gelatinosa, filiformi, vage ramosa, ramis patentibus subfastigiatis, ramulis sæpe subsecundis, acuminatis, capsulis hemisphæricis, sparsis. VI. Tab. 341.

HAB. In mare ad Damnoniam.

5. *S. erectus*; (*Grev.*), fronde cartilaginea, tereti, filiformis, biunciali, ramis simpliciusculis, paucis, erectis, capsulis sessilibus, globosis. VI. Tab. 357.

HAB. In mare.

6. *S. Teedii*; (*Ag.*), fronde membranacea, flaccida, compresso-plana, lineari, vage bipinnata, ciliis marginalibus subulatis capsuliferis, capsulis solitariis. VI. Tab. 356.

HAB. In mare.

ENUS CXLVII. HALYMENIA, *Ag.*

CHAR. GEN.—Frons plana vel tubulosa, submembranacea. Fructus: tubercula punctiformia in lamina frondis subimmersa.—*Ag.*

1. *H. purpurascens*; (*Ag.*), fronde membranacea, filiformi, tubulosa, subpinnata vel vage ramosa, ramis elongatis, fastigiatis, simpliciusculis, basi attenuatis.

Var. *crispata*; (*Grev.*), fronde intense fusco-purpurea, insigniter contortis. IV. Tab. 240.

HAB. In mare.

GENUS CXLVIII. DELESSERIA, *Lamour.*

CHAR. GEN.—Frons plerumque membranacea, stipitata vel acaulis, foliacea vel laminosa, rare filiformis. Fructus duplex; capsulæ et sori sporidiis ternis.

1. *D. Hilliæ*; (*Grev.*), fronde membranacea, ad basin breviter venosa, in ambitu vage fissa, segmentis latis, inæqualibus, erosis, soris confertis, punctiformibus, totam frondem occupantibus. VI. Tab. 351.

HAB. In mare; rarissima.

2. *Bonnemaisoni*; (*Ag.*), fronde tenuissima, vage fissa, segmentis cuneato-subrotundis, brevissime stipitata, stipite in basi frondis evanescenti, soris aut capsulis sparsis. VI. Tab. 322.

HAB. In mare, ad Angliam Scotiamque.

3. *D. ocellata*; (*Lamour.*), fronde tenuissima, avenia, fere ad basin fissa, segmentis divaricatis, sublinearibus, dichotomis, obtusis, soris in segmentis. VI. Tab. 347.

HAB. In corallinis et algis marinis; æstate.

4. *D. cornea; (Grev.)*, fronde cartilagineo-cornea, disticke ramosa, segmentis compresso-planis, linearibus, bipinnatis, pinnis oppositis, patentibus, obtusis, capsulis in segmentis brevibus lateralibus immersis. *(Sphærococcus corneus*, Ag.)

Var. *clavatus; (Ag.)*, fronde subrepenti, filiformi, compressa, hic illic articulato-contracta, ramulis apice dilatatis et rotundatis.

Fucus *clavatus*, Lamour. Diss. t. 22. f. 1, et 2.

HAB. In mare.

Obs.—Fructificatio certe duplex, et sporidia ternata.

ORD. VI. FUCOIDEÆ.—Trib. I. LAMINARIÆ.

CHAR.—Expanso-foliaceæ, raro tubulosæ, membranaceæ, exsiccatione lutescentes, raro nigrescentes.

GENUS CLXIX. ENCŒLIUM, *Ag.*

CHAR. GEN.—Frons tubulosa, membranacea, reticulata. Fructus; apiculi clavati, massa sporacea nigra repleti.

1. *E. Lyngbyanum; (Grev.)*, fronde olivacea, elongata, utrinque attenuata. V. Tab. 290.

HAB. In mare.

Obs.—Vix ab *E. echinato* satis diversum; an status giganteus ?

GENUS CL. STRIARIA, *Grev.*

CHAR. GEN.—Frons tubulosa, continua, membranacea, reticulata. Fructus; massæ sporidiorum capsuliformes in soris suborbicularibus coacervatæ. Sori lineas transversas formantes.

1. *S. attenuata; (Grev.)* V. Tab. 288. *(Carmichaelia attenuata)*.

HAB. In Algis marinis.

Obs.—*Striaria*, ad *Encoelium* proxime accedit, sed habitu omnino differt, et fructificatio est nunquam apiculata.

GENUS CLI. ZONARIA, *Ag.*

CHAR. GEN.—Frons flabelliformis vel dichotoma, ecostata, submembranacea, e fibris parallelis constituta, lineis fructiferis (plerumque) transversis. Capsulæ in soris coacervatæ.—*Ag.*

1. *S. parvula; (Grev.)*, fronde olivacea, suborbiculari, plana, membranacea, profunde lobata, lobis orbicularis, subimbricatis, vix zonatis. VI. Tab. 360.

HAB. In mare.

GENUS CLII. LAMINARIA, *Lamour.*

CHAR. GEN.—Frons fibrose radicata, stipitata, membranacea vel coriacea. Fructus; granula pyriformia in lamina frondis, soros maximos formantia.—*Ag.*

1. *L. debilis; (Ag.)*, stipite setaceo, in frondem membranaceam, cuneato-oblongam dilatato. IV. Tab. 277.

HAB. In mare.

Trib. II. FUCACEÆ.

CHAR.—Exsiccatione nigrescentes vel fuscæ, receptaculis distinctis, sæpe tuberculatis vel poro pertusis.—*Ag.*

GENUS CLIII. LICHINA, *Ag.*

CHAR. GEN.—Frons cartilaginea, lichenosa, dichotoma, angustissima, tuberculis terminalibus.

1. *L. pygmæa*; (*Ag.*), fronde plano-compressa, tuberculis globosis. IV. Tab. 219.
HAB. In mare.

2. *L. confinis*; (*Ag.*), fronde cylindrica, tuberculis ovalibus. IV. Tab. 221.
HAB. In mare, parum supra superficiem aquæ.

GENUS CLIV. FUCUS, *Linn.*

CHAR. GEN.—Receptacula tuberculata; tuberculis pertusis, includentibus glomerulos fibrarum capsularumque massæ mucosæ fibrosæ immersos. —*Ag.*

1. *F. vesiculosus*; (*Linn.*), fronde plana, costata, lineari, dichotoma, integerrima, vesiculis sphæricis frondi innatis geminis, receptaculis terminalibus, ellipticis.—*Ag.*

Var. *laterifructus*; (*Grev.*), fronde segmentis lateralibus angustioribus, multifidis, fructiferis. VI. Tab. 319.

Var. *subecostatus*; (*Ag.*), fronde vix biunciali, subcostata, anguste lineari, evesiculosa. IV. Tab. 181. (*Fucus balticus*).

HAB. Var. prima in mare; var. secunda, in paludibus salsis.

CLASS IV. CHARACEÆ.

GENUS CLV. CHARA, *Linn.*

CHAR. GEN.—Caulis spiraliter striatus, articulatus, ramulis verticillatis. Fructus duplex: nuculæ spiraliter striatæ, et globuli colorati.

1. *C. aspera*; (*Willd.*), caule tenui, striato, strigoso, aculeis sparsis, patentissimis, ramis subsenis, suberectis. VI. Tab. 339.
HAB. In fossis et lacubus.

CLASS V. MUSCI.

A. *Seta terminalis.*

Trib. I. PHASCOIDEÆ, *Grev. & Arn.*

GENUS CLVI. PHASCUM, *Schreb.*

CHAR. GEN.—Operculum persistens. Calyptra brevis fugax.—Musci minuti.

1. *P. crassinervium*; (*Schw.*), caule nullo, foliis lineari-lanceolatis dentatis, nervo crasso latoque, excurrente, capsula subsessili. VI. Tab. 353.
HAB. Ad terram calcaream.

Trib. II. SPLACHNOIDEÆ, *Grev. & Arn.* *

GENUS CLVII. SPLACHNUM, *Linn. Grev. & Arn.*

CHAR. GEN.—Capsula apophysata. Peristomium simplex, e dentibus geminantibus siccitate arcte reflexis. Columella apice dilatata. Calyptra lævis basi integra, fugax.

1. *S. vasculosum; (Hedw.)*, foliis rhombo-ovatis, obtusis, apophysi globosa, demum rugosa. III. Tab. 179.

α, acutifolium; (Grev.), foliis luridis, acutis. VI. Tab. 311.

HAB. In paludosis alpinis.

GENUS CLVIII. DISSODON, *Grev. & Arn.*

CHAR. GEN.—Seta terminalis. Capsula apophysata. Peristomium simplex e dentibus geminantibus, siccitate erectis. Calyptra lævis, basi integra, fugax

1. *D. splachnoides; (Grev. & Arn.)*, foliis patentibus, lingulatis, obtusis, concavis, peristomii dentibus 16 geminatis, integris, æquidistantibus, apice incurvis, seta lævi. III. Tab. 145. *(Weissia splachnoides)*.

HAB. In paludosis alpinis; æstate.

Obs.—Certe a *Weissia* toto diversum.

Trib. III. ORTHOTRICHOIDEÆ, *Grev. & Arn.*

GENUS CLIX. TETRAPHIS, *Hedw.*

CHAR. GEN.—Peristomium simplex, 4-dentatum, dentibus erectis. Calyptra mitriformibus.

1. *T. Browniana; (Grev.)*, caule subnullo, foliis linearibus, perichætialibus ovatis, capsula ovata. III. Tab. 169.

HAB. Ad rupes.

GENUS CLX. ORTHOTRICHUM, *Hedw. Hook. & Grev.* †

CHAR. GEN.—Peristomium simplex vel duplex; dentibus vel 8 trilineatis, vel 16 unilineatis per paria approximatis; ciliis 8 vel 16 vel raro membrana erecta lacerata. Columella acuta. Calyptra mitriformis.

* *Peristomium simplex.*

1. *O. Drummondii; (H. & G.)*, caulibus repentibus, foliis oblongo-lanceolatis subcrispatulis, seta elongata, capsula clavata, sulcata, calyptra valde pilosa II. Tab. 115.

HAB. In arborum truncis.

** *Peristomium duplex.*

2. *O. rupincola; (Funck)*, caulibus erectis vel procumbentibus, foliis suberectis, strictis, rigidis, lata lanceolatis, capsula immersa, superne sulcata, dentibus 16 patentibus, calyptra valde pilosa. II. Tab. 105.

HAB. In saxis; æstate.

3. *O. speciosum; (Nees)*, caulibus erectis, foliis ovato-lanceolatis, acuminatis, paten-

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* Vide Greville et Arnott in Act. Soc. Wern. vol. 5.

† Edinburgh Journal of Science, vol. 1. p. 125.

tibus, marginibusque ad apicem fere recurvatis, capsula exserta leviter sulcata, peristomium dentibus octo demum sedecim reflexis, calyptra pilosa. III. Tab. 137.

Hab. In truncis et saxis.

4. *O. Ludwigii*; (*Brid.*), caulibus repentibus, foliis erecto-patentibus, anguste lanceolatis, siccitate crispatulis, capsula exserta, pyriformi, lævi, ad apicem solummodo plicata, ore contractissimo, calyptra valde pilosa. III. Tab. 133.

Hab. In arborum ramis et truncis.

Trib. IV. GRIMMOIDEÆ, *Grev. & Arn.*

GENUS CLXI. GRIMMIA, *Hedw. Hook.*

Char. Gen.—Peristomium simplex, e dentibus 16 integris vel perforatis (rare fissis), æquidistantibus. Calyptra mitriformis.

1. *G. leucophæa*; (*Grev.*), effuso-cæspitosa, caulibus brevibus, subsimplicibus, foliis ovato-ellipticis, acumine incano longissimo productis, seta recta subexserta, capsula ovata, operculo brevi-rostrato. V. Tab. 284.

Hab. In saxis.

3. *G. spiralis*; (*Hook.*), caulibus elongatis, pulvinatis, foliis subtrifariis, lanceolatis, in acumen longum diaphanum piliforme productis, carinatis, siccitate tortis, capsula ovata, lævi, seta curvata. IV. Tab. 203.

Hab. In saxis alpinis.

3. *G. torquata*; (*Hornsch.*), caulibus elongatis, densissime pulvinatis, foliis lanceolatis, acuminatis, superioribus subpiliferis, carinatis, siccitate insigniter spiraliter tortis, IV. Tab. 199.

Hab. Ad saxa alpina.

4. *G. trichophylla*; (*Grev.*), caulibus elongatis, laxe cæspitosis, foliis lanceolato-subulatis, carinatis, margine recurvato, apice piliferis, seta curvato-flexuosa, capsula ovato-elliptica, sulcata, operculo rostrato. II. Tab. 100.

Hab. In muris.

5. *G. atrata*; (*Mielich.*), caulibus elongatis late cæspitosis, ramosis, foliis confertis anguste lanceolatis, obtusis, concavis, incurvis, capsula lævi, elliptica, operculo conico, rostro brevi, subobliquo, seta recta, exserta. III. Tab. 123. (*G. unicolor*).

Hab. In saxis alpinis.

GENUS CLXII. ENCALYPTA, *Hedw.*

Char. Gen.—Peristomium simplex, dentibus sedecim. Calyptra campanulata, lævis, thecam maturam includens.

1. *E. rhaptocarpa*; (*Schwaegr.*), foliis oblongis, acutis, nervo percurrente vel excurrente, capsula recte striata. III. Tab. 163.

Hab. In summitate montium.

Trib. V. DICRANOIDEÆ, *Grev. & Arn.*

GENUS CLXIII. WEISSIA, *Hedw.*

Char. Gen.—Peristomium simplex, e dentibus sedecim, integris, æquidistantibus. Calyptra dimidiata.

1. *W. latifolia*; (*Schwaeg.*), caule simplici perbrevi, foliis late et obtusissime ovatis, breviter acuminatis, conniventi-imbricatis, nervo infra apicem evanescente, capsula erecto-cernua, operculo rostrato. III. Tab. 149.

Hab. Ad terram in alpibus.

GENUS CLXIII. DICRANUM, *Hedw.*

CHAR. GEN.—Peristomium simplex e dentibus 16 bifidis. Calyptra dimidiata.

1. *D. Schreberianum; (Hedw.)*, caule erecto, simplici, foliis undique divergentibus, longe subulatis, basi ovato-dilatatis, undulatis, amplexicaulibus, capsula ovata, cernua struma instructa, operculo longe et oblique rostrato. II. Tab. 116.

HAB. Ad terram.

2. *D. fulvellum; (Sm.)*, cæspitosum; caule simpliciusculo, foliis longissimis, subulato-setaceis, ad apicem vix subserrulatis, nervo obsoleto-percurrente, seta brevis, capsula obovata, erecta, striata, operculo brevi-rostellato. IV. Tab. 188.

HAB. In fissuris rupium.

GENUS CLXV. DIDYMODON, *Hedw.*

CHAR. GEN.—Peristomium simplex e dentibus 16 vel 32 per paria approximatis, vel ad basin unitis. Calyptra dimidiata.

1. *D. glaucescens; (Grev.)*, caule subramoso, erecto, foliis glaucescentibus, lanceolato-acuminatis, subpatentibus, nervo percurrente, capsula oblonga, operculo brevi. III. Tab. 127.

HAB. Ad terram inter rupes in alpibus.

2. *D. obscurus; (Kaulf)*, caulibus pulvinatis, ramosis, foliis lanceolato-subulatis, apicem versus subserratis, siccitate tortuosis, nervo valido percurrente, capsula suberecta, ovata, operculo oblique rostrato. IV. Tab. 193.

HAB. Ad saxos subalpinos.

GENUS CLXVI. TORTULA, *Hedw.*

CHAR. GEN.—Peristomium simplex e dentibus 32 spiraliter tortis, ad basin majus minusve in membranam tubiformem unitis, vel liberis. Calyptra dimidiata.

1. *T. brevirostris; (H. & G.)*, caule brevissimo, foliis paucis, rotundo-ellipticis, obtusissimis, concavis, enervibus, rigidis, marginibus involutis, operculo conico vix rostellato, capsulam oblongam duplo breviore. VI. Tab. 331.

HAB. In muris.

2. *T. rigida; (Turn.?)*, caule brevissimo, foliis paucis, linearibus, incurvis, submucronulatis, canaliculatis, nervosis, rigidis, marginibus involutis, capsula oblonga, operculo rostrato, subdimidio breviore. VI. Tab. 342.

HAB. In aggeribus et muris.

Trib. VI. BRYOIDEÆ, *Grev. & Arn.*

GENUS CLXVII. BRYUM, *L.*

CHAR. GEN.—Peristomium duplex: ext. e dentibus 16: int. membrana plicata 16-laciniata sæpissime ciliis alternantibus. Calyptra dimidiata.

1. *B. demissum; (Hook.)*, caule perbrevi, ramoso, foliis ovatis, cuspidato-acuminatis, reticulatis, nervo excurrente, seta arcuata, capsula curvato-pyriformi, pendula. II. Tab. 92.

HAB. Inter rupes ad terram in alpibus.

2. *B. Tozeri; (Grev.)*, caule brevi, simplici, erecto, foliis remotis, patentibus, obovatis, integerrimis, cuspidatis, marginatis, laxe reticulatis, nervo ultra medium evanescenti, capsula subpyriformi. V. Tab. 285.

HAB. In locis udis argillaceis.

GENUS CLXVIII. TIMMIA, *Hedw.*

CHAR. GEN.—Peristomium duplex: ext. e dentibus 16; int. membrana in laciniis 32 æqualibus anastomosantibus (apicibus 2 vel 4 connexis) fissa. Calyptra dimidiata.

1. *T. megapolitana; (Hedw.)* VI. Tab. 326.

HAB. In arenosis udis inter saxos ad margines rivulorum.

B. *Seta lateralis.*

Trib. VII. HYPNOIDEÆ, *Grev. & Arn.*

GENUS CLXIX. NECKERA, *Hedw.*

CHAR. GEN.—Peristomium duplex: ext. e. dentibus 16, erectis, liberis; int. e ciliis totidem cum externis alternantibus.

1. *pennata; (Hedw.)*, caule decumbente, ramoso, foliis bifariis, ovato-lanceolatis, transversim undulatis, apice serrulatis, capsula ovata, subsessili, perichætio immersa. II. Tab. 109.

HAB. In arborum truncis.

GENUS CLXX. LESKEA, *Hedw.*

CHAR. GEN.—Peristomium duplex: ext. e dentibus 16; int. membrana 16-laciniata, ciliis nullis. Calyptra dimidiata.

1. *L. polyantha; (Hedw.)*, caulibus repentibus, dense implexis, ramulis suberectis, brevibus, sericeis, filiformibus; foliis subsecundis, imbricatis, erecto-patentibus, ovato-lanceolatis, acuminatis, integris, basi obsolete binervibus, setis numerosis, capsulis erectis, oblongo-ovatis, operculo acuto-conico. III. Tab. 151.

HAB. In truncis arborum.

GENUS CLXXI. HYPNUM, *L.*

CHAR. GEN.—Peristomium duplex: ext. e dentibus 16; int. membrana plicata, 16-laciniata, ciliis alternantibus. Calyptra dimidiata.

1. *H. trifarium; (W. & M.)*, caulibus subsimplicibus, elongatis, foliis ovatis, obtusis, integerrimis, trifario-imbricatis, suberectis, tumido-concavis, nervo apicem versus evanescenti. V. Tab. 279.

HAB. In paludosis.

2. *H. salebrosum; (Hoffm.)*, caule decumbente, subpinnato vel vage ramoso, foliis erectiusculis, lanceolatis, longe acuminatis, striatis, apicem versus serrulatis, nervo ultra medium evanescenti, seta lævi, capsula cernua, operculo acute conico. IV. Tab. 184.

HAB. In muris et ad terram.

3. *H. alpestre; (Sw.)*, caulibus repentibus, ramis erectis, subsimplicibus, foliis imbricatis, patentibus, late ovatis, integerrimis, obtusis, 1- vel 2-nervibus, rigidiusculis, capsula oblonga, cernua, operculo conico. V. Tab. 282.

HAB. In rivulis alpinis.

4. *H. molle; (Dicks.)*, caulibus repentibus, ramis erectis, subsimplicibus, foliis laxe patentibus, summitate ramorum subsecundis, late ovatis, integerrimis, acutiusculis, flaccidis, " 1- vel" 2-nervibus, capsula ovata, cernua, operculo conico. V. Tab. 283.

HAB. In rivulis alpestribus.

5. *H. Halleri; (L.)*, caule repente, pinnato, ramis brevibus, erectis, foliis omnibus

recurvis, cordatis, acuminatis, basi obsoletissime binervibus, apice subserrulatis, operculo obtuso-conico. III. Tab. 174.

HAB. In rupibus alpinis.

6. *H. dimorphum;* caule procumbente, subpinnato vel fasciculato, foliis serrulatis basi binervibus, primariis cordato-acuminatis, recurvis, rameis lato-ovatis, obtusis vel acutis, dense imbricatis, capsula ovata, cernua, operculo conico. III. Tab. 160.

HAB. Ad terram inter saxos, locis umbrosis.

7. *H. brevirostre; (Ehrh.)*, caule vage ramoso, foliis squarrosis, late ovatis, concavis, vix striatis, acuminatis, apicem versus undulato-contractis, serratis, basi bi-nervibus, capsula cernua, operculo conico. VI. Tab. 337.

HAB. In sylvis.

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TO THE

SIXTH VOLUME.

[In this Index, the same order and nomenclature are observed, as in the Systematic Indexes of the preceding Volumes.

The Synopsis, which contains an improved Arrangement, and a corrected nomenclature, renders a Systematic Index to the entire work unnecessary.]

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